

Be My Valentine_see page 37



TOP PERFORMERS

A FAST SEATING
 COMPRESSION RING

. Combined in the same replacement ring set!

② A SOFT PRESSURE OIL RING

(1) The Hastings torsional is a compression ring that seats *right now*. Its torsional action brings it into a quick seat and perfect wall bearing in any cylinder—tapered, out-of-round or re-bored.

(2) The Hastings Steel-Vent is an oil ring that stops oil-pumping immediately. It's a *soft pressure* ring with the light inner-spring developed by Hastings. It delivers the extra lubrication that older engines must have—and with complete oil control and economy.

Here are two *top performers* in the same "Motor Engineered" set . . . built by replacement ring specialists.

You don't get come-backs due to cylinder scuffing and slow-seating when you install Hastings Steel-Vent sets. You get positive, quick performance that makes car owners happy.

HASTINGS MANUFACTURING COMPANY . HASTINGS, MICHIGAN HASTINGS LTD., TORONTO

Piston Rings, Casite, Oil Filters, Spark Plugs

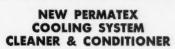
HASTINGS STEEL-VENT PISTON RINGS

Regular or Chrome-Faced

*Tough on oil-pumping • Gentle on cylinder walls



WITH ANY 2 CASES OF PE EX COOLING SYSTEM SERVICE PRODUCTS



Cleans Rust and Scale
 Dissolves Grease and Oil
 Prevents Rust Re-forming*
 Stops Leaks and Seepage*
 List (Case) \$36.00. Dealer Price \$21.60

DEALER PROFIT \$14.40

*Exclusive

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PERMATEX LIQUID RADIATOR SEALER

Stops radiator leaks quickly and effectively—will not clog or interfere with water circulation.

List (Case) \$18.00. Dealer Price \$10.50

DEALER PROFIT \$7.50

PERMATEX **HEAVY DUTY** RADIATOR CLEANER

Dissolves rust, scale and lime—even the tough jobs—No neutralizer necessary—Harmless to rubber and metal parts. List (Case) \$18.00. Dealer Price \$10.80 DEALER PROFIT \$7.20



Nationally Advertised A Big New Campaign on Cooling System Products in THE SATURDAY EVENING POST, POPULAR SCIENCE, POPULAR MECHANICS

Order your spring stock now. Your jobber will serve you promptly. Or write to Permatex, giving jobber's name.

PERMATEX WATER PUMP LUBRICANT AND **RADIATOR ANTI-RUST**

Gives complete protection against rust after anti-freeze is removed—Keeps water crystal clear—Stops those squeaks and squeals—Prolongs water pump life.

List (Case) \$20.40. Dealer Price \$11.28

DEALER PROFIT \$9.12

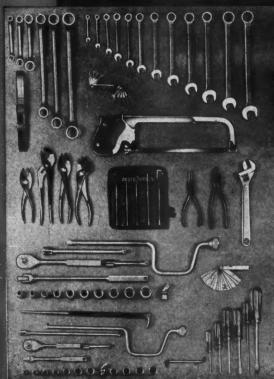


COMPANY, INC.

Brooklyn 35, N. Y. Kansas City 15, Kansas

More Than 50 Chemical Products for Better Automotive Maintenance PUZZLE:
Which Man
Owns the
New PROTO
Mechanics
Standard
Tool Set?





NEW! No. 9908 Mechanics Set

A compact, high-utility set with 76 Items. Contents: %" and ½" drive socket wrench sets, 4 types of wrenches, pliers, screwdrivers, punch and chisel set, hacksaw, gauge sets, bar, and carbon scraper. Available also with hip-roof tool box as Set No. 9909.

How would you like more leisure, easier work and more money? PROTO's new Mechanics Standard Tool Set No. 9908 can help you achieve them because it is designed to do your work faster and easier. To reduce your investment, tools with the greatest use are included. Also, this set provides the right tool when you need it, which is a great time saver. You can be proud of the professional quality of these tools. Their user-tested designs, proper forging and heat-treating, and special alloy steels combine to give you the best tool value ever. Why not start enjoying greater earnings and easier work? Buy the No. 9908 tool set from your PROTO dealer-it's a real investment in your future! Send 10¢ for 68page catalog to

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Eastern Factory—Jamestown, N.Y. Canadian Factory—London, Ont.

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For THE AUTOMOTIVE SERVICE INDUSTRY

LXXIV, No. 3

February, 1955

In This Issue...

Newscoop	 33
Report to Our Readers	 37
Newscene	 38
Let's Get Acquainted With G.M.'s Latest V-8's	40
Slugfest for 1955	43
A New High for Horsepower	 44
Independents Organizing	46
Servicing the Rochester 4-Barrel Carburetor	48
Explosive Rivets Have Taken Hold	 51
Body Shop Tips	 54
Body Parts List	 55
Organization Means Good Teamwork	 56
Bulletin Board	 57
Cartoon Page	 58
New Products	 59
Pan American Proving Ground	 63
Management Clinic	64
Readers' Clearing House	65
Engine Specifications	 66
Price, Weight and Body Table	 67
New Car Registration	68
Shop Kinks	 7
Calendar of Coming Events	14
Advertisers' Index	15
Last Laugh	

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, 1955



Everybody goes for that new

Go-Ahead Look!

Dealers know it... Sales Show it!

It happened before . . . in '54! Oldsmobile launched a sensational car that became the hottest-selling "Rocket" in history!

But... just watch Oldsmobile go ahead again in '55... with that new "Go-Ahead" look! Here's a massive front end, a bold new fender line, a dramatic new use of color that packs even more sales appeal than last year's exciting model! Add the flashing new action of Oldsmobile's all-new "Rocket" 202 Engine and you've got a selling punch that's a knockout!

Finally, team this spectacular new car with Oldsmobile's enthusiastic dealer organization, and you've got a winning combination. Then you'll know why Oldsmobile is way ahead to stay ahead . . . and that now, more than ever . . . "It's smart to be with Olds!"



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DIVISION OF GENERAL MOTORS CORP. . LANSING, MICHIGAN

Chilton's MOTOR AGE, FEBRUARY, 1955

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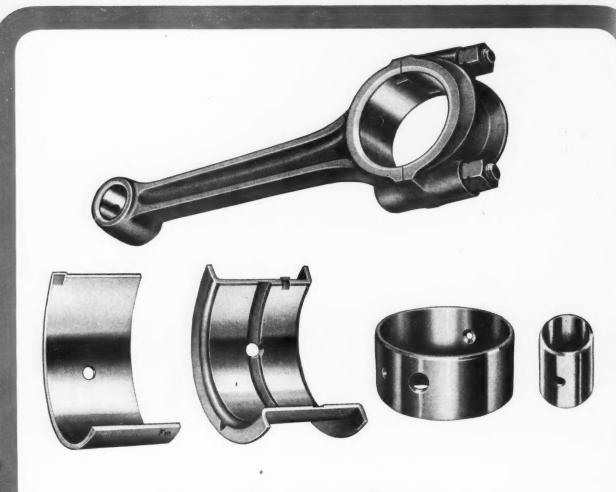
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The Complete Engine Bearing Service

The Federal-Mogul line has all your engine bearing needs . . . More part numbers than any other line . . . and the *only* complete, nation-wide connecting rod service.



FEDERAL-MOGUL SERVICE

Division Federal-Mogul Corporation
DETROIT 13, MICHIGAN





HERE'S WIX ENGINEERED SELLING In Action!



Oil Filter Service TOOL KIT





Cartridge Installation Manual



1955



COMPLETE LINE BLANKETS YOUR MARKET!

You sell MORE Oil Filter Cartridges to MORE of your customers when you sell WIX Engineered Filtration. The WIX Line is *complete*. It provides top filtering efficiency for every car and truck that comes into your shop. And WIX provides *both* popular filtering media ... POROSITE, the pleated paper Filtrant for full-flow systems — WIXITE, the HEVI-DUTY Filtrant for partial-flow systems.

Moreover, WIX Engineered Selling gives you EXTRA sales opportunities. The Industry's outstanding Cartridge Installation Manual, the sensational WIX Tool Kit that makes filter servicing simple and sure, and the money-making SS-24 Display Rack — all are engineered to make sales fast, easy, and profitable.

Yes — you make MORE money with the WIX complete coverage and sales-active Program. See how easily you can get started on the WIX road to Extra Profits. Write for complete details today.



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AUTOMOTIVE INDUSTRIAL RAILROAD

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Top Performance



GENERAL MOTORS PRODUCT



DISTRIBUTED BY WHOLESALERS EVERYWHERE

Makes Em Top Sellers

DELCO-REMY COMPLETE BREAKER PLATES

MAKE REPLACEMENT EASIER, SURER

There are plenty of customer advantages to help you sell Delco-Remy pre-adjusted, center-bearing type breaker plate assemblies . . . extra advantages, too, for the man who does the installing. Fact is, all he does is put the plate in the distributor! Contact points are already aligned, spring tension already adjusted, condenser mounted, and clearances already checked. Looking at it from the mechanic's viewpoint, Delco-Remy's complete replacement breaker plate assembly is a real time and work saver when servicing Delco-Remy distributors.

And here are the mechanical advantages the Delco-Remy complete breaker assembly offers the customer:

Scientifically spaced support bearings provide maximum stability under all operating conditions. Smooth motion of movable plate on molded anti-friction bearings allows quick, accurate response to sudden engine-speed changes. Built-in oil-retaining felt provides dependable, long-term lubrication.

• Chemically treated support plate increases service life by resisting surface corrosion and "grooving."

Breaker plate assembly packages are available to cover the original equipment replacement needs of many 6- and 8-cylinder late-model passenger cars from 1949 through 1953.

See your United Motors catalogs for complete description and application data. Then order a stock of Delco-Remy breaker plate assemblies from your United Motors distributor.

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The best BEARING MARKET

Almost half the cars and trucks that pass your door are built with Moraine engine bearings as original equipment. Sell where the selling is easiest—replace with Moraine engine bearings.

Moraine engine bearings are original equipment on more new cars and trucks than any other make—including all General Motors cars and trucks! It's a ready-made replacement market, a great selling opportunity for you!

Modern automobile engines are built to higher and higher compression ratios to provide better all-around performance. And Moraine's M-100 (Durex) engine bearings lead in this expanding original equipment field. The M-100—built by the world's largest manufacturer of original equipment engine bearings—was especially developed for modern engines, designed to give greater durability and longer life through an exclusive Moraine engineering process.

All Moraine bearings—both the M-100 and the conventional steel-backed babbitt-type bearings—are built to uniform high quality, to the exacting tolerances that original equipment manufacturers demand. For 1955 United Motors offers a complete line of replacement bearings to fit all cars.

Important bearing news! Moraine-400—toughest automotive bearing ever made—is original equipment in 1955 models of representative cars, trucks, buses and off-the-road vehicles.







you have is the READY-MADE market for

MORAINE ENGINE BEARINGS



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1955

Moraine engine bearings are attractively packaged, easily identified on your shelves.

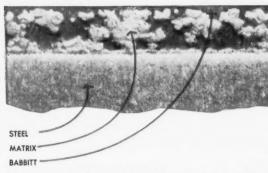


Photo-Micrograph of Cross Section of M-100 Bearing, Magnified 33 Times

HE MATRIX MAKES THE DIFFERENCE

Steel-backed intermediate matrix, of porous copper-nickel, bonds mechanically, as well as metallurgically, with high-lead babbitt having a thin overlay.

The exclusive Moraine matrix (or middle layer) supporting the babbitt and bonded to the steel back makes the M-100 8 Ways Better!

- 1 Greater resistance to fatigue 2 Increased load carrying capacity
- 3 Greater conformability 4 Greater embedability 5 Stronger bond 6 Greater resistance to scoring 7 Greater resistance to

corrosion 8 More durability

A NEW LEECE-NEVILLE ALTERNATOR SYSTEM THAT ACTUALLY COSTS LESS THAN "EXTRA" OUTPUT D. C. GENERATORS!

TYPICAL
LEECE-NEVILLE QUALITY
THROUGHOUT

BOTH 6-VOLT and 12-VOLT MODELS for passenger cars and trucks

NEW SIMPLIFIED
BRACKETING
MAKES
INSTALLATION
EASY

Write, wire or phone today for full details and the amazing low price. The Leece-Neville Company, Cleveland 14, Ohio. Distributors in principal cities . . . service stations everywhere

ALL the famous advantages of L-N Alternators, including...

- AMPLE OUTPUT FOR ACCESSORIES
- CHARGING CURRENT WITH ENGINE IDLING
- LOW MAINTENANCE COST

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Proved by performance for over 9 years

ANOTHER GREAT AUTOMATIC TRANSMISSION TOOL New Britain 6 in 1 SEAL DRIVER



OTHER MONEY MAKING **NEW BRITAIN TOOLS FOR** AUTOMATIC TRANSMISSIONS



This one Tool combination SAVES money for you - replaces more than a dozen individual tools costing many times more. For Hydra-matic, Dynaflow, Powerglide, Fordomatic and Mercomatic, this moneymaking new Tool by New Britain speeds automatic transmission servicing for you. The rugged, top quality alloy steel Seal Driver and 6 Adapters, with rust-proof, Parkerized finish, give you the right combination for installing both front and rear oil seals FAST and EASY. Permits installation of seal without removing pump from transmission. Proper fit prevents the seal distortion that causes oil leakage.

Add to your profits with this new 6-in-1 Seal Driver and other New Britain Automatic Transmission Tools. Call your Jobber today!



(Oil Pump Removed)



Replacing Hydra-matic Front Pump Oil Seal



Replacing Hydra-matic Rear Oil Seal

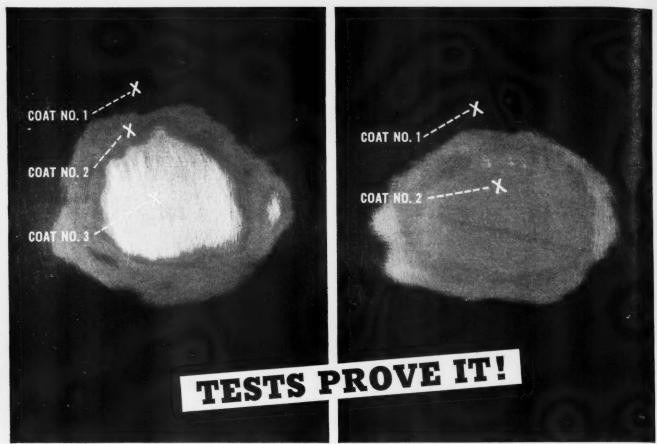


GREATER STRENGTH . BETTER FIT THE NEW BRITAIN MACHINE CO. . NEW BRITAIN, CONN.



1955

Adjusting Tool



"WETORDRY" Tri-M-ite Paper, Grit 320A, cut through first color coat in 40 strokes—through second coat in 45 more!

WATERPROOF sandpaper "X", Grit 320A, took 60 strokes to cut through first color coat—wore out a few strokes later.

Fastest-cutting sandpaper on the market..."WETORDRY"!

(Reg. U.S. Pat. Off.)

Saves time, money, work on every job...spot or over-all

In the test shown above, made under actual shop conditions, two different brands of sandpaper were used on identical test panels.

Waterproof sandpaper "X", grit 320A, failed after a little more than 60 strokes. "Wetordry" Tri-M-ite Paper, grit 320A, cut through 2 color coats—was still cutting well after 85 strokes!

Here's proof of the superiority of "Wetordry" Tri-M-ite Paper. Order from

your regular 3M supplier. Remember, your sharpest buy is "Wetordry".





Made in U.S.A. by Minnesota Mining and Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Brand Magnetic Tape, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.



This 48-page book shows HOW TO GET MORE BODY BUSINESS AT A PROFIT

You need this valuable manual right now! It's loaded with clues on how to make bids that bring in the jobs and show a profit. Get the jump on competition! Be the first in your community to use these amazing new Porto-Power tools and methods. Ask your jobber for this new P-51 book or send coupon to Blackhawk today!

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BLACKHAWK and only Blackhawk make

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Porto-Power

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Without obligation, Power" book.	send	free	P-51	"Porto-
Name				
Firm			*****	
Address				********
City		Sta	te	

HERE IS 1955's BIGGEST

THE Raybeotos

POINT BRAKE CHECK

HERE'S YOUR CHANCE to really make wheels off pay off. This new and different Raybestos 7-Point Brake Check will help you get plenty of extra business by uncovering trouble spots in brake linings, wheel bearings, brake assembly, and hydraulic system. Don't pass the opportunity up. It's too good to miss.

With the Raybestos Plan you can charge for every check you make





BRAKE SERVICE PROFIT PLAN

Hard-hitting ads like these will urge car owners to ask for the 7-Point Brake Check THE TABLE SAFETY. AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS E YOUR FOR THE REAL PROPERTY CANADA AND TRUBS. AS EXCHANGE AN

Sign up now and cash in with

Raybestos

AMERICA'S BIGGEST SELLING BEST KNOWN BRAKE LINING



ALL RAYBESTOS LINED SHOES "CONTOUR GROUND" FOR PERFECT FIT

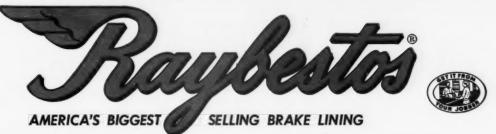
"Contour Grinding" is a special process developed by Raybestos engineers to improve the performance of lined shoes. Shoes are carefully ground to give proper belly contact... the inherent springiness of shoe assures correct contact at heel and toe under average braking pressure. No spongy pedal—no lining high spots.

FAMOUS PG SETS

In brake linings, Raybestos is the big prestige name. All Raybestos linings are Proving Ground Tested for greater highway safety. And only Raybestos linings are made by seven different manufacturing processes to provide just the right combination for every make and model of car,



SEE YOUR RAYBESTOS JOBBER FOR DETAILS

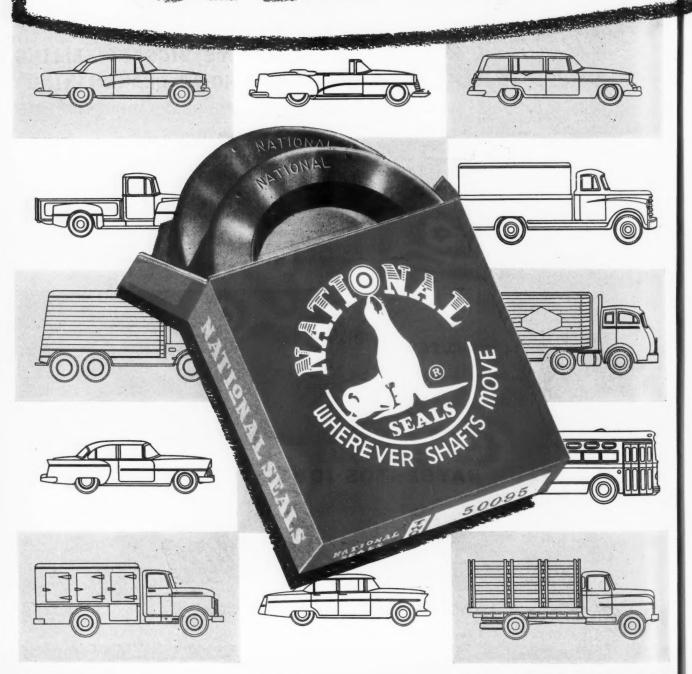


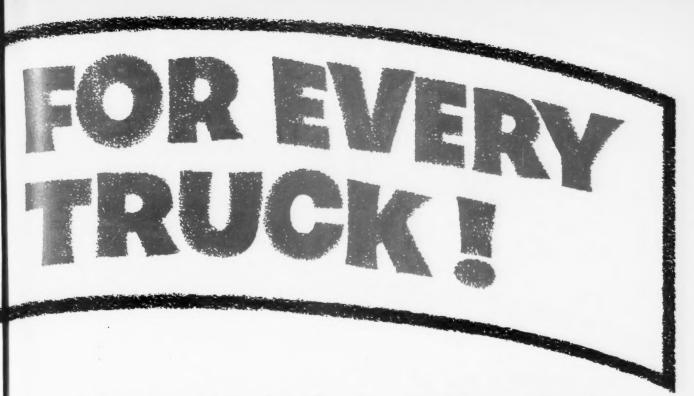


1955

RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.

RAYBESTOS-MANHATTAN, INC. • Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber Covered Equipment • Asbestos Textiles • Packings • Abrasive and Diamond Wheels • Bowling Balls





Only your National Jobber has the big complete line

When you need oil seals, you need 'em now, and need 'em right. You go to the jobber who has complete stocks and gives you fast service.

Your National Oil Seal jobber has the right oil seals for 95% of all cars, including orphans. The same goes for trucks, buses, tractors, and trailers. Only National has the big complete line, because only National makes all these seals for original equipment. And since National seals *are* approved original equipment, you're

sure National seals are exact replacement.

(If you suddenly need a really odd-ball seal which your jobber doesn't stock, he orders it from National's convenient nation-wide warehouses. Delivery is practically overnight—not next month!)

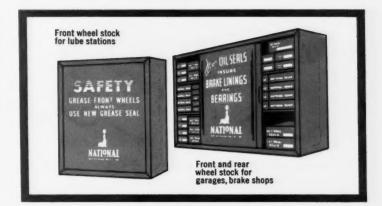
For seals, for other key parts you need, patronize your National Oil Seal jobber. He's the man who's got the big complete line, and gives you top service to boot!

It's easiest to keep popular seals on hand in a National Oil Seal service stock. Exclusive feature of National cabinets lets you find the right seals fast, and warns when stocks of any given number are low. Your jobber keeps the stock up. Two stocks: big one contains front and rear wheel seals for popular cars; smaller stock (ideal for lube stations) contains front wheel seals only. Catalog, price sheet, steel enameled cabinet supplied.



Support this industry-wide





NATIONAL MOTOR BEARING CO., INC.

General Offices: Redwood City, California
Plants: Redwood City, California and Van Wert, Ohio

"Always install a new National Oil Seal every time an old seal is removed!"

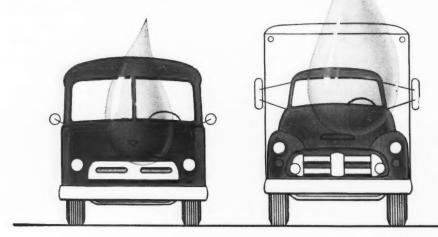






HEAVY-DUTY

DELCO SUPER II Brake Fluid



Gives Maximum

Under the most rugged operating conditions, every stop is surer when Delco Super 11 heavy-duty brake fluid is used in the brake systems of cars, trucks or buses.

There's a big pre-sold market for Delco Super 11, too—it's original equipment on many vehicles, including all General Motors cars and trucks.

Delco Super 11 exceeds SAE specification 70R1, which establishes performance standards for heavy-duty brake fluid, including



DISTRIBUTED BY WHOLESALERS EVERYWHERE



Stop Swer!



Delco brake shoes and lining are best for replacement because they're made to original equipment standards.

DELCO LINED BRAKE SHOES



Braking Power

operating temperature ranges . . . lubrication . . . stability . . . corrosive effect on metals and rubber. Delco Super 11 brake fluid also exceeds U. S. government specification VV-F-451a. Delco Super 9—the moderate-duty brake fluid—exceeds SAE specification 70R2.

Both Super 11 and Super 9 are available in any convenient quantity—from 8-ounce cans to 54-gallon drums. Order from your United Motors distributor.





Contains every part necessary to put a master cylinder back in normal operating condition.

DELCO Makes Brake-Repair Easy!

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Your dealer will tell you...
FOULING PENALIZES POWER



a day like Spark Piras are spiritor congressed to makimize effects of spark plud toulind...d makin course of noor ending werter mance

Auto-Lite Spark Plugs are Ignition Engineered to minimize effects of fouling

Auto-Lite Spark Plugs are designed and built by ignition specialists to minimize effects of fouling in all types of modern engines. They give your customers the best performance money can buy.

The Auto-Lite Campaign is telling millions of motorists you are the man to help them get top engine performance! Make sure you have the complete line of Auto-Lite ignition engineered Standard, Resistor, Marine and Transport Spark Plugs.

THE ELECTRIC AUTO-LITE COMPANY

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Toronto, Canada

AUTO-LITE MAKES A COMPLETE LINE OF RESISTOR, STANDARD, TRANSPORT AND MARINE SPARK PLUGS FOR EVERY USE

AUTO-LITE SPARK PLUGS
Ignition Engineered

This sign identifies you as an Auto-Lite Registered Spark Plug Dealer.

AUTO-LITE

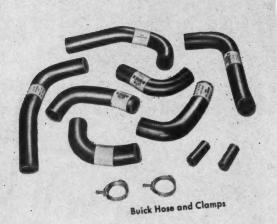
AUTO-LITE SPARK

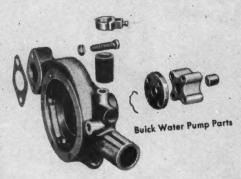
AUTO-LITE MANUFACTURES SPARK PLUGS, BATTERIES, SEALED BEAM UNITS, WIRE AND CABLE, AND ELECTRICAL SYSTEMS



Keep chills and fever out of car engines by winter-servicing

Cooling System Parts





See Section 2-F in your Buick Shop Manual

ASSURE YOUR BUICK OWNERS carefree winter driving with controlled engine temperatures that work best with their dual-unit WeatherWarden heaters.

BUICK WATER PUMPS, HOSES AND THERMOSTATS are quality-designed for dependable, durable service.

BUY THEM FROM YOUR BUICK DEALER — at your full discount.

Did You Know that—in engineering tests— Buick thermostats must satisfactorily open and close 35,000 times?

BETTER WORK WITH

FACTORY ENGINEERED PARTS

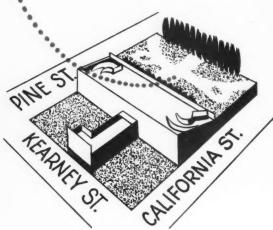
ENGINEER APPROVED ACCESSORIES

FACTORY ENGINEERED PARTS

SEE YOUR BUICK DEALER—Your One-Stop Source for Buick Parts







• St. Mary's Square Garage, a modern five-level underground structure in a hillside, eases parking in downtown San Francisco. Capacity 1,025 cars. Lube facilities on fourth level. A picturesque park on roof.

"We are indeed pleased with the Aro overhead reels and supply pump system in operation at St. Mary's Square Garage," says S. E. Onorato, executive vice-president and general mgr. "We find them highly efficient as we can dispense motor oil, transmission fluid, gear oil and chassis lubricants with minimum time and effort.

"Outstanding display appeal of this Aro installation not only enhances our lubrication department but affords splendid sales promotion."

Whatever your lube service needs . . . ARO has the modern answer to help you profit more!

THE ARO EQUIPMENT CORPORATION
Bryan and Cleveland, Ohio

Aro Equipment of California, Los Angeles, Calif. Aro Equipment of Canada, Ltd., Toronto 1, Ontario Offices in all principal cities

See Your Automotive Wholesaler



LUBE EQUIPMENT

Also . . . Air Tools . . . Aircraft Products . . . Grease Fittings



NOW ONLY 5 MOPAR ORIFLOW SHOCK ABSORBERS FIT 85% OF ALL CHRYSLER CORPORATION CARS

Reduce your stock investment with MoPar Oriflow shock absorbers!

Yes, now MoPar Oriflow shock absorbers are made to service four out of five cars built by Chrysler Corporation! Because they fit so many vehicles *right*, you can keep fewer shock absorbers on hand and lower your investment in stock. MoPar Oriflow shock absorbers are easy to order, too! (See application chart below.)

More advantages of MoPar Oriflow shock absorbers

Only MoPar shock absorbers are specifically calibrated and balanced to the suspension system of Chrysler Corporation vehicles. For this reason they ride better, last longer! To keep customers satisfied, install shock absorbers that are an integral part of the suspension system. Get MoPar Oriflow shock absorbers from your Chrysler Corporation dealer or MoPar parts wholesaler today!

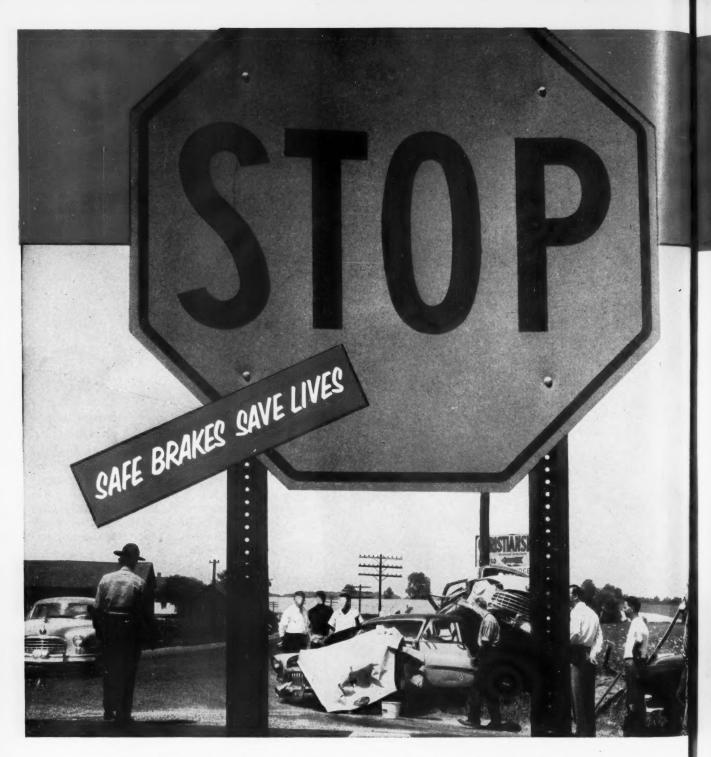
Part No.	PLYMOUTH 6-Cyl.	DODGE 6-Cyl. 8-Cyl.		DE SOTO 6-Cyl. 8-Cyl.				CHRYSLER 6-Cyl. 8-Cyl.		
ruii ito.	o-cyn.	o-cyi.	o-cyi.	o-cyi.	o-cyi.	o-cyi.	0-cy1.			
FRONT SETS										
1450 732	1939-1950	1938-1950	_	1938-1950	_	1938-1950	1938-1950			
1326 164	1951-1953	1951-1954	1953-1954	1951-1953	1952-1953	1951-1953	1951-1953			
REAR SETS										
1325 998	1938-1950	1938-1950	_	1938-1950	_	1937-1950	1937-1950			
1450 632	1951-1954	1951-1952	_	1951-1952	1952	1951-1952	1951-1952			
1450 633	_	1953-1954	1953-1954	1953-1954	1953-1954	1953-1954	1953-1954			

Fit over 9,000,000 Plymouths, Dodges, De Sotos, Chryslers! This application chart shows the millions of 1938-1954 Chrysler Corporation vehicles

that you can service with MoPar Oriflow shock absorbers. To get your share of business, check your customers' shock absorber needs regularly.

MOPAR

PARTS DIVISION - CHRYSLER CORPORATION - DETROIT 31, MICHIGAN



A simple STOP sign ironically frames the ghastly aftermath of a fatal crash that took the lives of two men and seriously injured a third. Safe brakes might have averted this slaughter.

Don't "write off" trusting customers by gambling on

second-rate brake lining! Your customers stake their confidence in the caliber of work you do and the quality of parts you use. Don't let them down. Standardize on safety-proven Wagner CoMaX Brake Lining. It is compounded to exacting specifications to assure maximum stopping power under severest driving conditions.

Wagner ... the best known name in brake service

WARNINGS often GO UNHEEDED

but the brand of brake lining you choose could be the difference between a crash or safe stops

for safety's sake ... reline with WAGNER® COMAX BRAKE LINING

Wagner CoMaX Brake Lining is unsurpassed for quick, safe, smooth stops and extra long operating life. In dual-friction sets, as in single friction sets, CoMaX is uniform in density, composition, and frictional qualities throughout the service thickness of each lining. It will not compress, absorb moisture, or deteriorate with age . . . withstands excessively high operating temperatures...contains no harmful abrasive material to injure drums.

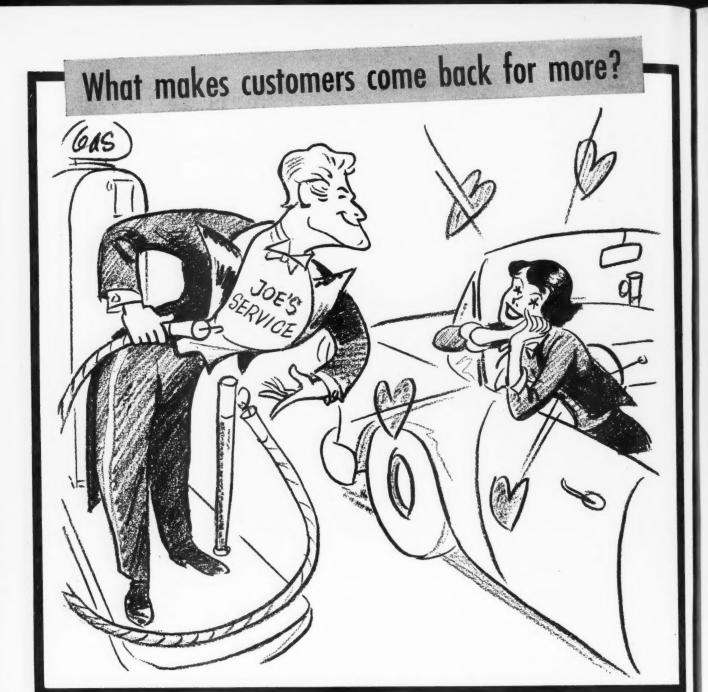
Exhaustive testing in the laboratory, at the proving ground, and in company owned vehicles assures a uniform high quality in all Wagner CoMaX Brake Lining. It is available in shoe exchange sets, "bonded-on" or "riveted-on", with either standard or oversize lining thicknesses, as well as in sets, rolls, blocks, slabs and cut segments. Coverage is complete for car, truck, or bus. You can get Wagner CoMaX Brake Lining as well as Wagner Lockheed Hydraulic Brake Parts and Fluid from one convenient, reliable sourceyour nearest Wagner Jobber. See him today!

You can depend upon WAGNER QUALITY because Wagner Products are used as original equipment by car, bus, truck, and trailer manufacturers.









They'll all come back if you give 'em the best. When it's a bearing job... just tell 'em it's TIMKEN'!

Hiring an Apollo to man your pumps is a second-best way to make steady customers. (After all, your competition might hire an even better-looking guy—and where are you then?) The best way to bring customers back is to make them see you give the best in service. How? Show them that you use

the best replacement parts. In tapered roller bearings, of course, that means Timken® bearings. Your customers know the name means quality.

TIMKEN

TAPERED ROLLER REARINGS

NOT JUST A BALL () NOT JUST A ROLLER (THE TIMKEN TAPERED ROLLER (BEARING TAKES RADIAL (AND THRUST -) - LOADS OR ANY COMBINATION -





Better farming makes him a better customer for you!

Top farmers produce twice as much per acre, twice as much per man, as average farmers—and buy twice as much to live twice as well.

Our job is to help *more* farmers become *top* farmers. That makes more top customers for you. For what you sell is needed to achieve *better farming*.

Better farming on more farms—more sales to more prosperous farmers...that's what Better Farming means!

Now Country Gentleman's name and aim are the same

A Curtis publication



Fast Break-in



CHROME TOP RING

Factory-lapped to a light-fight finish for quick seating and fast break-in, with a heavy solid chrome face applied by Sealed Power's unique process. Fights heat, friction, abrasion, and corrosion.

CHROME SIDE RAILS

More man double usual life is given to the side rails of the stee oil ring by solid chrome faces, giving top-and-bottom protection to the whole set

FULL-FLOW SPRING

Every Krome King Set includes the famous MD-50 Steel Oil Ring with the Full-Plow Spring—best for oil control even in badly tapered and out-of-round bores.

FAST BREAK-IN

Amilions of rood miles of use have proved that Sealed Power Krome N Ring Sets break-in fast, go to work saving oil in an amazingly short time.





a famous "extra" you get in Sealed Power KromeX

PISTON RING SETS

Because the chrome top ring in every KromeX Ring Set is factorylapped to a light-tight finish—equal to hundreds of miles of road wear—there's no long, oil-wasting delay in breaking in these sets. They settle down to work immediately, and oil economy begins RIGHT NOW!

That top-and-bottom chrome protection in every KromeX Ring Set is obtained by having chrome faces on the steel side rails of the MD-50 Steel Oil Ring, as well as on the top compression ring. Every ring between these two chrome-protected rings shares the long life which chrome gives the whole set.

28 leading engine builders use SEALED POWER CHROME RINGS!

Sealed Power Piston Rings

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

RINGS . PISTONS . PINS . SLEEVES . VALVES . WATER PUMPS

MOTOR AGE

Newscoop

'56 introductions due early
new car supermarkets
Big Three studying V-6's
tinted windshields
LaSalle II transmission
horsepower to climb further
1955 pace car for '500'

The Tip-Off

A SURE SIGN THAT 1956 MODEL introductions will be early is the date set for the next Chicago Automobile Show. It will be held in November, two months earlier than the '55 show. Show officials clear dates with factories before scheduling and apparently have assurance that all models will be out by November.

* * *

AUTOMOBILE SALES BY SOME COMPANIES, along with production, are reaching new records. High sales at three GM divisions—Cadillac, Buick and Oldsmobile—brought its 1954 sales total to 2.7 million units, more than 5 per cent over 1953.

THE FAVORABLE REACTION TO CHRYSLER Corporation's 1955 cars is reflected in a report which shows sales of Chrysler and Imperial cars for the last ten days of December increased more than 30 per cent over the same period in 1953. Sales for December totaled 13,230 best month for the Chrysler Division since July, 1953.

Super Markets on the Horizon

A LARGE DETROIT CAR DEALER sees a breakdown of car retailing through exclusive dealers if current factory and some dealer practices are not changed. He says <u>factories</u> forced high costs on dealers by insisting on costly buildings and facilities.

NOW THEY ARE ENCOURAGING LOW OVERHEAD DEALERS to come in with unpretentious facilities to undersell high overhead competitors in the same line. He sees possibilities of a trend toward a "supermarket" operation handling all or several makes of cars.

V-6 May Still Have Future

n

MPS

DON'T WRITE OFF the possibility of V-6 engines for cars and trucks in the next few years. The Big Three are studying them and one has a serious program under consideration. The reason for the interest is that as fuel octane ratings increase, compression ratios go up, requiring shorter, rigid crankshafts.

SIGNIFICANTLY, GM PUT A V-6 in two of its show cars for this year's Motorama. It is a 60-degree V with fuel injection and overhead camshaft, develops 150 horsepower.

They're Skeptical

SEVERAL GM DEALERS we have talked to are privately <u>skeptical of GM's offer</u> to buy back excess cars in dealers' stocks at the price the dealer paid. One says dealers <u>will continue to bootleg</u> at \$25 or \$50 mark up in preference to selling the cars back at no profit.

ANOTHER POINTS OUT THAT DEALERS WILL SHY away from admitting to the factory that they cannot sell all the cars they have been shipped, since it puts them on the defensive in regard to territory penetration and may endanger their franchise.

* * *

MOPAR NOW HAS AVAILABLE a power brake package for installation on Chrysler Corporation cars built from 1951 on. It bolts to the frame and can be installed in about two hours with ordinary shop tools. The largest sales are expected among Dodge and Plymouth owners.

Tint Makes Little Difference

NEW ROAD TESTS conducted by General Motors to determine how much tinted windshields reduce visibility at night revealed some interesting data. GM found that the difference in seeing distance between conventional glass and the tinted type averaged only about 3 per cent (or 9 feet in a distance of 300 feet) which is considered insignificant.

GM's TESTS ALSO SUBSTANTIATED a study made by another car maker recently which showed that tinted windshields improve daytime vision. Tinted glass, it was noted, absorbs more than half of the sun's rays and reduces glare.

* * *

WRAPAROUND WINDSHIELDS, hailed as a new development, actually are very old.

Pictures in our files show cars back as far as 1914 with
curved glass windshields. However, the windshields were vertical
instead of slanted as present day types, giving a pilot house
effect to the front of the car.

That's Really Confidence

PETZOLD MOTOR SALES, Plymouth dealer in Detroit, has put real meaning into the famous Plymouth slogan "Look at All Three." It invites the public to come in and view a Plymouth, Ford and Chevrolet (all brand new) on its showroom floor.

VISITORS ARE INVITED TO DRIVE as well as <u>look at all three cars</u>, which are comparable models and which have had the same servicing. The promotion is backed by advertising in Detroit newspapers.

* * *

GENERAL MOTORS HAS SQUELCHED all details about the special transmission used on the LaSalle II show cars in the Motorama. A likely guess is that it is the improved Hydra-Matic scheduled for introduction during the next year or so. The principal feature of the new transmission is a much smoother shift between gear steps.

* * *

STUDEBAKER SITUATION INDICATES HOW TOUGH the going is for independents. Even with sales at substantially higher levels than a year ago Studebaker still is losing money on every car built.

Rumor Crop

THE USUAL CROP OF RUMORS about troubles with 1955 models is more a symptom of competition than an actual defect. They include a grille change by one make, oil consumption by another, criticism of the hood line of still a third make.

NONE OF THE REPORTS APPEARS to have any solid foundation. Competitors, of course, are not adverse to spreading the story as long as it is a rival make that is involved.

* * *

CHRYSLER AND CADILLAC HAVE HIGHER DISPLACEMENT engines in the works, indicating that present horsepower ratings will continue to climb. Predictions of ratings approaching 400 hp brings the forecast from a top engine designer that if ratings go this high it will mean return to 12 or 16-cylinder engines.

Chevvy V-8 at the '500'

A 1955 CHEVROLET V-8 CONVERTIBLE WILL PACE the 39th running of the 500-mile <u>Indianapolis Race on May 30.</u> The last time a Chevrolet was used to pace the cars on their starting lap was in 1948.

MORE THAN 60 ENTRIES ARE EXPECTED in this year's 500-mile classic. Drivers will compete for more than \$250,000 in prizes and shoot at the all-time track record of 130.84 mph set by Bill Vukovich in 1954.

Washington Wire.....by Ray M. Stroupe



POSTAL RATE HIKES, demanded again this year, would mean higher costs for mailing bills and advertising matter. Congress, though, looks ready to turn down this demand, as well as the Broyhill bill (H. R. 73) to restore freer limits on size and weight of parcel post packages.

Plenty of Action

BILLS DROPPING INTO THE CONGRESSIONAL HOPPER indicate lively action for the automobile industry. Of particular interest is one to outlaw "phantom" freight charges by automobile manufacturers as unfair competition in commerce and as unfair or deceptive act or practice in commerce.

VARIOUS INVESTIGATIONS OF TRADE PRACTICES, including bootlegging and loading of dealers are indicated. Also of interest is a measure designed to require safety belts on all cars sold for interstate travel. Proposed bills to eliminate or reduce proposed automotive excise taxes are given little chance for success.

Metal Pellets as Carbon Removers

NEWLY PATENTED IS A METHOD of removing carbon deposits from car engines without removing the cylinder head. The mechanic takes off the air filter and pours metal pellets into the carburetor while the engine is running. This method is said to be fast and cheap, and not harmful to the engine.

* * *

AUTOMOTIVE WHOLESALERS HAD AVERAGE GROSS MARGINS of 27 per cent of sales in both 1952 and 1953. However, net profits dropped from 3.8 per cent in 1952 to 3.2 in 1953. These figures were revealed to U. S. Commerce Department by the Motor and Equipment Wholesalers Assn.

Millions More for Census

CONGRESS IS ASKED FOR ANOTHER \$4.6 MILLION to wind up the business, manufacturing and mineral industry censuses. The government has started this work with \$8.4 million voted by Congress last year. New money would cover costs of adding the figures and publishing the results.

* * *

GOVERNMENT ACTIVITIES THAT CUT into private business profits are due for a trimming. The White House says action in this field is planned. In Congress, an "anti-government competition" bill (H. R. 687) has been offered by Rep. Frank C. Osmers (R., N. J.).

Could Invite Snapped Necks

SAFETY ENGINEERS probably aren't cheering for the Barrett Bill (S. 310) to pass. It would require safety belts in all new passenger cars sold in interstate commerce. Some say such belts, if not as complete as straight jackets, might raise the number of snapped necks among auto accident victims.

* * *

THERE'S A CHANGE in the Eisenhower Administration position on standby controls. Officials want to head off disputes over how much power the President has in an emergency. They will ask Congress for broad authority to freeze prices, wages, credit and rents if war threatens.

It's Deductible

REVENUE OFFICIALS SAY a car bought by a bank and "leased" to a private taxpayer under a trust agreement is that person's property for tax purposes. The government rules that if he makes the required payments he may deduct depreciation over the entire useful life of the car.

* * *

NEW AND USED CARS SOLD IN 1954 by new car dealers numbered more than 14.8 million. These sales brought in \$44 billion, the National Automobile Dealers Association says. Over 42,000 dealerships employing 600,000 persons handled the selling job.

* * *

ARMY TESTS ARE BEING MADE on both 2-cycle and 4-cycle gasoline engines. This program is part of a <u>search for new small engines</u> with long life and low upkeep needs. Industry is aiding the Army in the search.

Report to Our Readers



Be my Valentine

ONE-THIRD of all the drivers in the United States are women. Sure, it seems like the entire 20 million of them are driving ahead of you on the same highway you're using on a Sunday afternoon. But that's not what we want to talk to you about.

Women drivers represent good business for you. Their influence on new car styling, appearance, comfort and safety is tremendous. In suburban America, the hand that rocks the cradle is undoubtedly the biggest influence in the purchase of the second car, the station wagon and not the jallopy. Properly handled she can become an important service customer as well.

Courtin' feminine trade is like any other kind of courtin'. If your intentions are honorable, you stand the best chance. If you speak in everlovin' friendliness to her you'll win her constant affection for your firm, your car and your service. If you fancy yourself as a ladies' man, we suggest that you try out your technique in captivating some alluring profits from the ladies, bless 'em. However, that's about as far as we can advise you to go. Let's not bust up any happy homes.

Support the business census

THIS year the United States Census Bureau has mailed report forms to about 2 million firms among them being automotive wholesale, retail and service firms. The vital information gathered in this vast undertaking is of inestimable importance to you and your government.

Your report will be kept strictly confidential. When classified, tabulated and finally published, the operations of no single firm will be revealed.

Therefore we urge complete cooperation with the Census Bureau. The Director of the Bureau of the Census tells us that the next sixty days are crucial. If and when you receive the census forms and schedules we suggest two things:

1. Make complete and accurate reports.

Return your reports to the Bureau of the Census promptly.

The quality of the census depends on those two important points. If you act now you'll soon learn some valuable answers to such questions as: Is your business holding its own against new competitors? Are your costs out of line with the rest of your trade? And much more!

A code of ethics

AS we go to press the National Automobile Dealers Association concluded one of its most important meetings. For surely it was an examination of conscience for many N.A.D.A. members facing a confused future on a tiny island of profit in a sea of prosperity.

The Board of Directors of N.A.D.A. adopted a code of ethics "to guide the operation of its members." Dealers will be asked to sign and display the code of ethics in their establishments. The following principles were established:

- 1. To price our products and our services fairly, based upon our costs, plus a reasonable profit.
- 2. To allow fair and reasonable prices for used vehicles offered in trade.
- 3. To properly inspect and service all vehicles before delivery to our customers.
- 4. To provide facilities, personnel and stock of replacement parts, adequate to properly service the vehicles we sell.
- To accurately represent and advertise our merchandise and services.
- 6. To furnish the lowest finance and insurance charges consistent with sound business.
- 7. To support programs designed to promote adequate highways and traffic safety.

Faithfully yours,

Frank Plight

1955



Dream Cars Grace GM's Motorama

Above. The LaSalle II Sports, a GM experimental car not attached to any division, has an overall height of 42.8 in., fiberglass body and a new V-6 engine.

Right. Chevrolet's Biscayne, a 4-passenger sedan, has many novel features including front seat which pivots for easy exit.





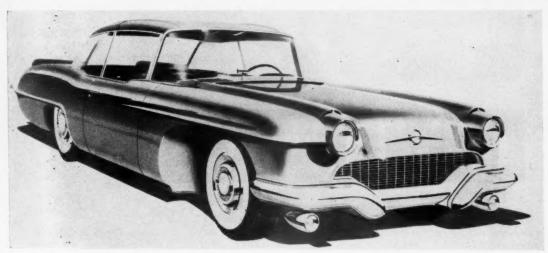
Left. A "dream" truck is this GMC all-purpose vehicle, L'Universelle. Designed as a panel model, it can be converted to a taxi, station wagon or small bus. Features include front wheel drive, easy loading, torsion suspension on front, good visibility, and body made of fiberglass reinforced plastic. Note the wide door.

Right. Cadillac unveiled their 4-passenger, 4-door Eldorado Brougham, powered by a 280 hp V-8. Overall length is 209.6 in., Overall height is 54.4 inches.

Lower right. Oldsmobile's "88" Delta is a four passenger 2-door hardtop. Finned brake drums are exposed to emphasize functional design. Note unusual recessed headlight design.

Below. A hinged roof panel on Pontiac's Strato-Star permits easy exit and entrance by passengers. This six-passenger hardtop is designed with an aircraft motif. Notice the visibility.

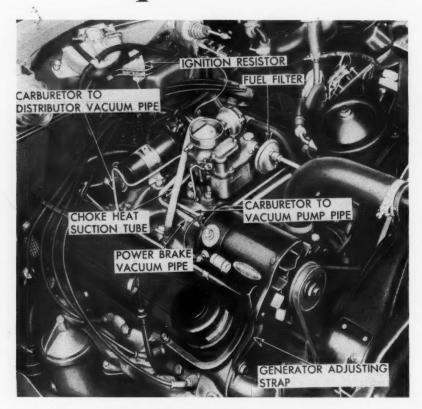




Right. The Wildcat III is Buick's new experimental car. It has a reinforced fiberglass body, 280 hp V-8 engine, variable pitch Dynaflow and air cooled brakes. Wheelbase is 110 inches shorter than most.



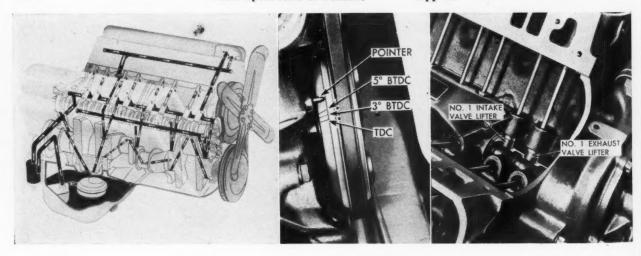
Let's Get Acquainted With

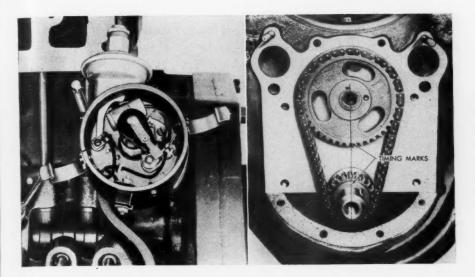


GM's Latest V-8's

Below. Diagram showing engine oil flow in both Pontiac and Chevrolet V.8's.

Below. Location of ignition timing marks on both engines is shown here. Specs refer to Pontiac. Below. This view shows location of the No. 1 intake and exhaust valve tappets.





Far left. Relationship of distributor and rotor for No. 1 firing position.

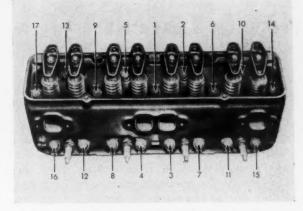
Left. Valve timing is correct when "O" marks on cam and crankshaft gear line up as shown.

Below. Proper sequence for tightening cylinder head cap screws.

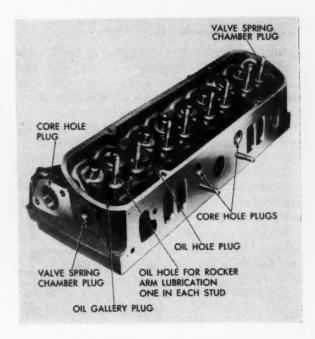
The new Chevrolet and Pontiac V-8's have a number of unusual features in common. Described and illustrated in this article are the most important service points on these two engines

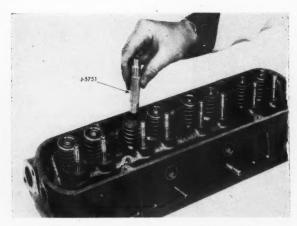
by Jack Montgomery, Technical Editor

THE new Chevrolet and Pontiac V-8 engines, similar in design, incorporate all of the latest engineering features. The new ball pivot valve train is one of the newest developments in recent years. Main feature of this valve train is that the rocker arms pivot on the ball sockets instead of a rocker arm shaft. Motion is transmitted from the camshaft through the hydraulic lifter and push rod to the rocker arm. The rocker arm pivots on its ball and transmits the camshaft motion to the valve. Another feature on the Pontiac engine is the use of tapered valve stems. The small end of the guide is toward the rocker arm to provide extremely close fit to the valve stem and retain oil for lubrication without allowing leakage to combustion chamber. The large diameter of (Continued on page 42)



Below. View of the cylinder head showing the various core hold plugs for cleaning.





Above, Using a special tool for testing the valve stem seals for leaks.



Continued from Page 41

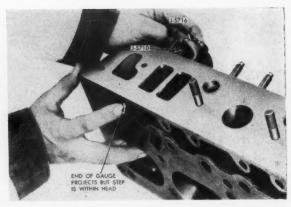
the tapered valve guide is toward the head end of the valve to allow for expansion without sticking. On the intake valves, neoprene oil seals between the valve spring retainer clip and the valve stem prevent oil from leaking down the valve stems. To eliminate carburetor icing and stalling during the warm up period the exhaust gases pass into a passage in the throttle body of the carburetor to provide heat.

Adjusting Hydraulic Valve Plungers

Initial adjustment of ball pivot rocker arm is made as follows. Rocking arm nuts are self locking. Adjust each rocker arm nut when the corresponding valve is completely closed in order to properly position the plunger within the lifter. The simplest and most accurate way to make this adjustment is to adjust one cylinder at a time while it is in firing position. With distributor rotor pointing to firing position for number one cylinder a special gage should be attached to the distributor or a distributor cap cut away to show rotor position.

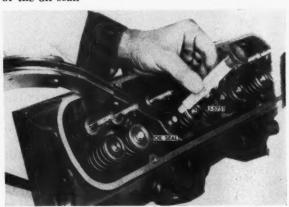
With the rotor at number one position, tighten number one intake and exhaust valve rocker arm ball nuts one at a time until there is no axial movement of push rod and the clearance between the ends of the push rods and rocker

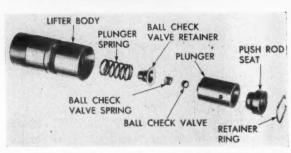
(Continued on page 98)



Above. Special gage in position for checking the rocker arm stud height.

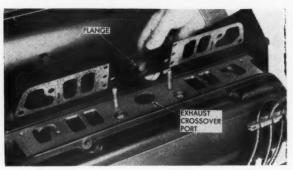
Below. Valve spring compressed showing the position of the oil seal.





Above. Exploded view showing related parts of the hydraulic valve lifter.

Below. Installing the exhaust manifold gasket with the flange toward the block.





by Leonard Westrate Detroit News Editor

for 1955

The "giants"—and the independents, too—will be battling it out toe to toe in what may likely be the most competitive year in automotive history

OU haven't seen anything yet!"
That pretty well sums up the outlook for the upcoming automobile sales battle this year. As one seasoned Detroit automobile dealer says: "We thought competition was rough in 1954 but this year the blood really will run."

There is little doubt that the industry, after a year which saw some drastic changes in market position among the various manufacturers, is in for a slam-bang battle. Those companies which gained in market penetration will fight savagely not only to retain their gains but to do even better in 1955. On the other hand, companies which lost ground during 1954 are limbering up their biggest artillery for an all-out drive to win back their lost positions and to extend their front beyond the original line.

As in 1954, the biggest fight again will be Chevrolet versus Ford. At this writing the winner of last year's derby still is undecided officially, since there is a time lag of about six weeks in R. L. Polk registration figures. This means that it probably will be well into February before complete tabulations show which com-

pany came out on top. The lead in this race switched several times during the year, with Ford at the last count ahead by about 7000, with 21 states reported on Oct. 15.

No matter which company wins, however, the important point is that Ford has been able to improve its position so materially that it now can compete with Chevrolet on an equal basis, the first time in many years that that has been true. Consequently the two giants will be slugging it out with no holds barred this year, and with an effect certainly to be felt by the rest of the industry.

Next most noticeable gain was made by Buick, which jumped from fourth place spot to third, ahead of Plymouth, historically No. 3. However, with Plymouth going full blast on its well accepted 1955 models, Buick, which announced its intention to retain the third place spot, will have its hands full.

Oldsmobile and Cadillac also improved their positions last year, with Oldsmobile going from sixth to fifth, and Cadillac from thirteenth to ninth. Pontiac was the only GM line to drop down a notch, going to sixth from fifth.

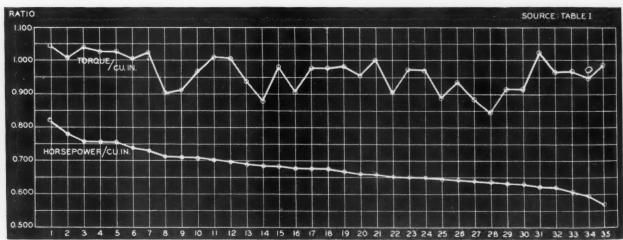
(Continued on page 74)

by Joseph Geschelin Engineering Editor



A New High for Horsepower

Car makers, in pitting their engineering experience against each other, offer the motorist more car for his dollar. This analysis shows how they've done it



The graph above, based on the table on page 45, compares torque to displacement and horsepower to displacement. Numbers at the bottom refer to the numbers on the table.

NSTEAD of relaxing, the BIG engine race has established dramatic firsts for 1955. Up to now the battle of the giants has been confined to the small group in the medium and high priced brackets. In 1955 the Big Three—Chevrolet, Ford, and Plymouth—make history by boosting horsepower of their new V-8's considerably above the level of all top engines of 1950.

A search of the record reveals that only Cadillac and the Packard Custom line boasted 160-hp in 1950; while the Buick Roadmaster and Lincoln were at 152.

The following year Chrysler zoomed to 180-hp. 1951 was the year of the big shift that started the avalanche.

The first of the bench marks for '55 is the

Comparative Data 1955 OHV V-8

PASSENGER CAR ENGINES

2. F	Cadillac Eldorado		(cu in.)	Bhp/ cu in.	(lb ft)	sion Ratio	Stroke Ratio	Torque/ cu in.
	Parkand Caribbana	270	331	0.816	345	9	1.05 to 1	1.042
3 0	ackaru Garibbean	275	352	0.781	355	8.5	1.14 to 1	1.008
U. C	Cadillac	250	331	0.755	345	9	1.05 to 1	1.042
	Chrysler New Yorker	250	331	0.755	340	8.5	1.05 to 1	1.027
5. 1	mperial	250	331	0.755	340	8.5	1.05 to 1	1.027
	Packard	260	352	0.739	355	8.5	1.14 to 1	1.008
7. F	Buick Series 50, 60, 70	236	322	0.733	330	9	1.25 to 1	1.025
8. [Dodge*	193	270	0.715	245	7.6	1.11 to 1	
9. 5	Studebaker President	185	259	0.714	258	7.5	1.10 to 1	0.999
10. F	Buick Series 40	188	264	0.712	256	8.4	1.13 to 1	0.970
11. 0	Clipper	225	320	0.703	325	8	1.09 to 1	1.015
12. (Clipper Custom	245	352	0.696	355	8.5	1.14 to 1	1.008
13. I	DeSoto Fireflite	200	291	0.687	274	7.5	1.11 to 1	0.942
14. 1	Plymouth*	177	260	0.681	231	7.6	1.10 to 1	0.888
15. (Chevrolet*	180	265	0.679	260	8	1.25 to 1	0.981
16. 1	Dodge Custom Royal	183	270	0.678	245	7.6	1.11 to 1	0.907
17. 1	Ford Thunderbird†	198	292	0.678	286	8.5	1.14 to 1	0.979
	Mercury Montclair	198	292	0.678	286	8.5	1.14 to 1	0.979
19.	Ford*	182	272	0.669	268	8.5	1.10 to 1	0.985
	Ford Thunderbird	193	292	0.661	280	8.1	1.14 to 1	0.959
21. 1	Lincoln	225	341	0.660	342	8.5	1.13 to 1	1.003
22.	Plymouth	157	241	0.652	217	7.6	1.06 to 1	0.900
	Hudson Hornet		320	0.650	300	7.8	1.09 to 1	0.973
24.	Nash Ambassador	208	320	0.650	300	7.8	1.09 to 1	0.973
	Dodge		270	0.648	240	7.6	1.11 to 1	0.889
	Mercury		292	0.644	274	7.6	1.14 to 1	0.938
	Plymouth Belvedere		260	0.642		7.6	1.10 to	0.888
	DeSoto Firedome		291	0.636	245	7.5	1.11 to	0.842
	Pontiac		287	0.627	264	8	1.15 to	0.919
	Chrysler Windsor		301	0.625		8	1.00 to	0.914
	Olds 98 and Super 88		324	0.623		8.5	1.13 to 1	
	Studebaker Commander.		259	0.622		7.5	1.10 to 1	
	Chevrolet		265	0.611		8	1.25 to	0.970
	Ford		272	0.596		7.6	1.10 to	
35.	Olds 88	185	324	0.571	320	8.5	1.13 to	0.988

^{*} With Power Package.

rating of the Big Three: Ford and Chevrolet with 162-hp standard V-8's; Plymouth with a choice of 157 and 167. In addition, each of the three offers a hot rod package with special equipment, Ford topping these options with 182-hp.

The second bench mark is found in the top, top ratings: Packard Caribbean—275 hp; Cadil-

lac Eldorado — 270 bhp; Packard — 260; Cadillac and Chrysler New Yorker and Imperial—250.

The third phase may be easily the most significant: it is an industry-wide move to promote torque as the best criterion of acceleration, performance, safe passing on the highway. Values of torque, at moderate speeds, have been upped on every engine. In most cases, designers acknowledge that increased displacement is the only way to get high torque values.

This emphasis on torque introduces a new dimension in sales—promotion and advertising.

Torque is no mystery to the engineer. But it is completely foreign to everyone else. It will be necessary to educate sales department personnel, advertising people, and the consuming public. It will have to be done by explaining in familiar languageand by analogy with familiar things-before the idea can take hold. And it will have to be explained to the newspaper men and writers, who are the link with the buying public.

This year, too, marks the passing of all inline eights in the passenger car field as well as reduction in the number of sixes. Nevertheless, sixes remain firmly entrenched with Ford, Chevrolet, and Plymouth where these engines

constitute an important attribute for commercial vehicles, fleet and taxicab operations, and segments of the car buying public more interested in operating economy.

The swing to V-8's this year has been so dramatic that our yearly analysis is being confined exclusively to V-8's. Besides more than doubling

(Continued on page 126)

[†] With Automatic Transmission.



Constitution and By-laws committee, l. to r. Byron W. Albright, Albright Automotive Service, Dallas, Tex., G. E. Druehl, American Body Shop, Long Beach, Calif., Ralph H. James, James Auto Repair, Tulsa, Okla., Jack Spath, Detroit, Mich., and John Luton, Kobeck Auto Works, San Diego, Calif.

FIND yourselves a place to sit, fellows," said Ralph H. James, Tulsa, Okla., repair shop owner, as he wielded a body shop mallet, in lieu of a gavel. Mr. James was serving as president pro-tem for the proposed national association of, by and for independent garage and repair shop owners and operators. The place was the Biltmore Hotel in Oklahoma City, the time, January 14 through January 16, 1955. A Rev. Mr. Gibbs opened the meeting with prayer.

Back in July, 1952, three state-wide groups representing Arkansas, Kansas and Missouri discussed the idea of welding all state and local maintenance associations into a national association. The plan began to take shape at a meeting in Joplin, Mo., in June, 1954. There followed another preliminary meeting in Tulsa, Okla., in July, 1954, after

which the big moment took place in Oklahoma City, last month . . . the organization of professional automotive repair shop owners offering personalized service to the motoring public.

This organization has come from within the trade which speaks well for its organizers. More than fifty delegates from eleven states (they had hoped for an "original thirteen states") from Alabama, Arkansas, California, Kansas, Louisiana, Massachusetts, Michigan, Missouri, Ohio, Oklahoma and Texas joined

Independents Organize National

Constitution and By-laws are written, National



At the close of three busy days of organizational meetings, Bert Cook, Sr., Dallas, Tex., the newly elected president of the Independent Garage Owners of America, Inc.

forces in long, hard discussion. They shared their enthusiasm for the new-born national association working in harmony with full cooperation. They selected the location for their national headquarters—Tulsa, Oklahoma. Drew up proposed constitution and by-laws, which delegates took back to their various state, regional and locals for ratification by March 15, 1955.

They elected Bert Cook, Sr., Bert Cook Cadillac Service, Dallas, Tex., president; Emery

by Frank P. Tighe, Editor

Association

ıl

headquarters is to be in Tulsa, Oklahoma



A winning smile after more than two years of planning and hard work—Ralph James, Tulsa, Okla., was named Executive Director of the newly-formed I. G. O. of America.

Welborn, Emery's Garage, Wichita, Kan., first vice-president; Howard Eves, Howard Eves Garage, Pasadena, Calif., second vice-president; Jack Spath, A.M.A. of Michigan, Detroit, secretary; and, Charles W. Cruce, Cruce Motor Co., Tulsa, treasurer.

Ralph James, Oklahoma-born, repair shop owner, one-time jobber salesman, wartime aircraft engine plant foreman—the man who spearheaded the new national organization, was (Continued on page 142)

Pioneers at the I.G.O. of America Meeting

The following were listed on the registry at the organizational meeting of the Independent Garage Owners of America:

Loran Johnson, Doc. Johnson Automotive, Tulsa, Okla.; Dave Carlson, Dave Carlson Garage, Austin, Tex.; Jack Spath, A.M.A. of Michigan, Detroit, Mich.; J. J. Mitchell, Jimmie Mitchell Repair, Birmingham, Ala.; Howard Eves, Howard Eves Garage, Pasadena, Calif.; J. B. Braswell, Birmingham Spring Service, Birmingham, Ala.; Robert Pelletier, R. J. Pelletier, Inc., New Bedford, Mass.; Joe Brown, Joe P. Brown Garage, San Antonio, Tex.; J. W. Lucas, Lucas Auto Service, Dallas, Tex.; Byron W. Albright, Albright Automotive Service, Dallas, Tex.; Farris Maynard, Farris Garage, Houston, Tex.; R. W. Hodge, R. W. Hodge & Sons, Shreveport, La.

R. W. Hodge & Sons, Shreveport, La.

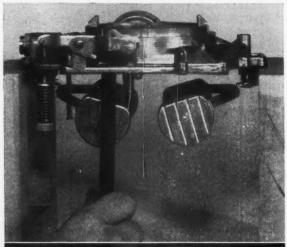
Jess Allman, Jess Allman Garage, Austin, Tex.; Erving
B. Susor, Susor Electric & Ignition Serv., Toledo, Ohio;
Paul O. Wilson, Wilson Body Service, Toledo, Ohio;
Oliver R. Rideout, Rideout Auto Service, Toledo, Ohio;
J. R. Wilson, Ensley Paint & Body Service, Birmingham,
Ala.; Bert Cook, Bert Cook Cadillac Service, Dallas, Tex.;
Glenn Smith, Majestic Paint & Body, Dallas, Tex.; Jack
Sutton, Jack Sutton Top & Body Works, Dallas, Tex.;
Frank C. Knight, Knight Auto Service, Shawnee, Okla.;
Neal Montgomery, Shawnee, Okla.; C. A. Bean, Parkview
Auto Service, Houston, Tex.

L. C. Plant, Plant's Garage, Oklahoma City, Okla.; Carl Willson, West Side Garage, Oklahoma City, Okla.; Paul Todd, Paul's Auto Service, Oklahoma City, Okla.; J. Gaffney, B & G Auto Elec., Tulsa, Okla.; J. E. Sammetinger, Sammetinger Garage, Oklahoma City, Okla.; Ralph James, James Auto Repair, Tulsa, Okla.; Ross H. Smallwood, Gate City Glass, Oklahoma City, Okla.; Sam Nakis, Keck Products, Inc., St. Louis, Mo.; Mell H. Martin, Mell Martin's Auto Rebuilders, Tulsa, Okla.; Stanley R. Hesson, Stanley's Garage, Oklahoma City, Okla.; Louie P. Lukenbill, Tulsa Auto Service, Tulsa, Okla.; Charles W. Hickman, Hickman Armature Service, Tulsa, Okla.

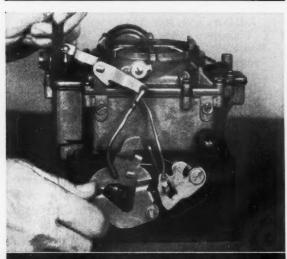
A. L. Edens, Edens Brake & Clutch Supply, Tulsa, Okla.; C. V. Courtney, College Hill Garage, Shawnee, Okla.; Floyd Mathis, Shawnee, Okla.; R. E. Puckett, Puckett's Radiator Wks., Oklahoma City, Okla.; E. R. Welborn, Emery's Garage, Wichita, Kans.; Wayne Bettis, Sr., Harbour City, Calif.; J. A. Luton, Kobeck Auto Works, San Diego, Calif.; Frank Zahn, Alexander Rebuilding Co., Little Rock, Ark.; Lonnie W. Reed, Reed's Garage, Little Rock, Ark.; G. E. Bruehl, American Body Shop, Long Beach Calif.; Don Goddsison, Don's Auto Service Tulsa, Okla.; C. W. Cruce, Cruce Motor Co., Tulsa, Okla.; H R. Morricen, Klein Car Service, Oklahoma City, Okla

H. K. Thomas, Highway Garage, Shawnee, Okla.; William R. Mayfield, Mayfield Garage, Little Rock, Ark.; E. L. Fry, E. L. Fry Garage, Oklahoma City, Okla.; Howard Swaggerty, Howard's Garage, Detroit, Mich.; C. Bill Keck, Hudson Service Station, Carterville, Mo.; E. C. Broyles, Broyles Bros. Auto Service, Kansas City, Mo.; E. C. Ensley, Automotive Unit Rebuilders, Joplin, Mo.; Elry M. Welpman, Welpman Garage, Joplin, Mo.

Special gage used for checking float level and alinement.



Measuring the float drop with a scale. Check for binding.



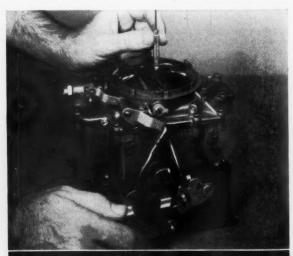
Check pump plunger rod travel and bend for adjustment.

Soroicing The Rochester

by
Edward H. Calkins,
Service Manager,
Rochester Products, Division of
General Motors

DEVELOPMENT of the modern automobile engine, with its increased sensitivity, compactness, and efficiency, has brought fresh problems to the carburetor manufacturer. Chiefly, he is faced with the task of controlling—to a degree never before required—fuel and air mixtures throughout the speed range of the car, and in particular at idle speeds.

The situation is compounded by the fact that



Gage in position for making the fast idle adjustment.

Many of this year's high-performance cars are equipped with this new carburetor. Here are the highlights on servicing and adjustments which will be of immediate interest to servicemen

4 Barrel Carburetor

a large majority of today's engines are coupled to constantly engaged automatic transmissions.

These highly efficient engines require extra "breathing" to realize the peak horsepower for which they were designed, and for that reason the 4-jet, 2-stage Rochester carburetor has an unusually large air horn, admitting a great volume of air to the intake manifold and providing the engine with an adequate air supply. This additional breathing ability increases the horsepower output of the engine in the higher speed

ranges, yet allows it to operate efficiently and economically at low speed and cruising ranges.

Control of the opening of the carburetor throttle valves is a major design feature. It was to achieve such control that the 2-stage feature was developed.

Most models use four throttle valves mounted on two parallel throttle shafts, one shaft controlling the primary side of the carburetor, the other the secondary.

(Continued on page 50)



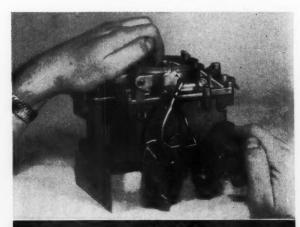


Rochester 4 Barrel Carburetor . . .

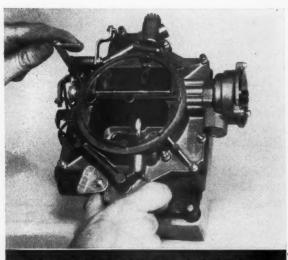
The two shafts are usually connected by a set of linkages so arranged that the primary-throttle valves will open independently of the secondary for a predetermined number of degrees. This is stage one. Stage two takes place when both sets of valves are in use.

The first steps in this procedure are all bench adjustments, beginning with the float level. Read the manufacturer's specifications and use the correct gauges for accuracy.

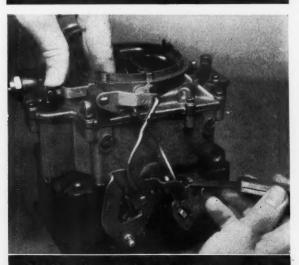
Next is the float drop. This adjustment is (Continued on page 82)



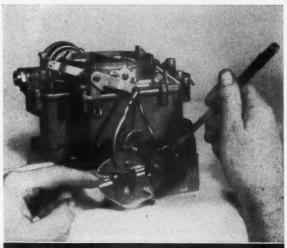
Bending the secondary throttle lever to provide the proper setting



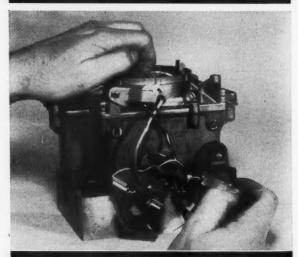
Bending the tang on the pump shaft to open the vent valve.



Checking the secondary throttle lever adjustment.

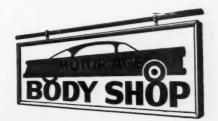


Checking the distance between the fast idle cam and secondary throttle shaft tang.



Bending the secondary throttle lever in a vertical direction to secure contour adjustment.

Some of the sheet metal men's headaches may now be eliminated with the use of explosive rivets, which save time and work on many jobs





Illustrations courtesy

E. I. du Pont de Nemours & Co.

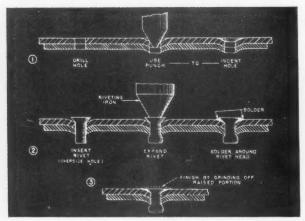
by Arthur H. Nellen, Jr., Managing Editor

Explosive Rivets Have Taken Hold

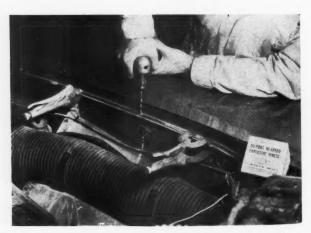
VARIETY of fastening methods are employed in body repair work, but the one problem which has always faced sheet metal workers is that of securing pieces or panels in "blind" spots. Sheet metal screws have helped overcome some of these problems, but their

design does not always assure a permanent repair. Spot welds are good in some cases, but heat, buckling and inaccesibility sometimes preclude this method. Explosive rivets have "filled the hole" in fascinating techniques where other (Continued on Page 52)

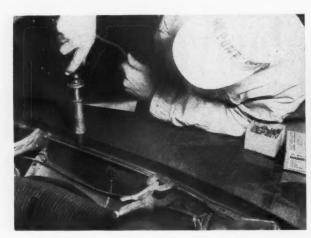
Explosive Rivets...



Method for making smooth-finished surface is shown above. This is especially useful for "blind" riveting applications.



Replacing a fender is easy with explosive rivets. First, clamp the fender in place and drill holes as shown.



Insert the rivets and expand them with a riveting iron or other heating device,

methods have proved to be impractical.

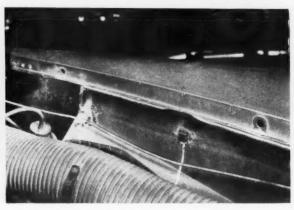
An explosive rivet, which may be made of brass, aluminum or nickel plated brass, looks much like a conventional rivet. However, the hollow shank contains a small explosive charge. When heat is applied to the head, the charge expands in the shank and sets the rivet permanently in as little as one half second. Since the head has a smooth finish, no further finishing operations are necessary under normal conditions.

Explosive rivets are quick and easy to use. Holes are drilled perpendicular to the work surface. Close drilling tolerances are not required. Then the rivet is inserted in the hole and heat is applied to the head of the rivet. Either a special riveting iron, soldering iron, riveting tool which applies heat by friction or an acetylene torch may be used. The shank of the rivet expands filling the hole and making a tight, permanent, vibration-proof fastening. Manufacturers claim that one man can easily set 20 or 25 rivets per minute and no bucking bar is needed.

Explosive rivets save considerable time, labor and money because of their speed of installation. The worker always operates from the head side, thus being invaluable in spots where a bucking bar can not be applied. In addition they eliminate filing, sawing, cutting or other finishing operations. Only one man is necessary for all fastening operations. He drills the holes, and inserts and expands the rivets. No one is needed to back up the rivets with a bucking bar. This is important even in places where normal rivets or other fastening devices could be used.

These industrial rivets are made with

The resulting job is neat and vibration free, with a minimum of time required for the operation.



either brazier or countersunk heads and are available in both regular (open end) or blast-free (noiseless) types. The latter type is of great advantage in repair work as there is no necessity for removing panels, piping or wiring that might ordinarily have to be removed with other fastening devices. They eliminate warping of metal surfaces or marring of paint which so often occurs with some fastening methods.

Another advantage of explosive rivets lies in the fact that no expensive additional equipment or extra power is necessary and still the finished job is strong, neat and vibration proof.

Although explosive rivets are fairly new in the automotive service market, users report a number of advantages from the time saving and convenience standpoints. One user reports that the assembly of radiator grilles with ordinary passenger cars takes up to three and one-half hours, and that explosive rivets cut the time to one hour. The assembly is said to be just as strong, has the appearance of a factory job and a sharp reduction in labor charges greatly improves his customer relations. The cost of materials is slightly higher than with conventional fastening devices, but the time saved far offsets the material investment.

The number of uses of explosive rivets in automotive repair work is limited only by the ingenuity of the user. A few of the more common applications are given here:

Hood assembly
Attaching latches to hood
Repairing and replacing fenders
Repairing quarter panels
Patching rocker panels
Repairing door panels
Attaching roofs to car bodies.

With labor prices increasing steadily and body shop operators constantly looking for new ways of doing the job better and faster, explosive rivets should most certainly be considered as an important addition to body shop techniques. The investment is so nominal and the returns so worthwhile that any body shop can afford to give them a try.

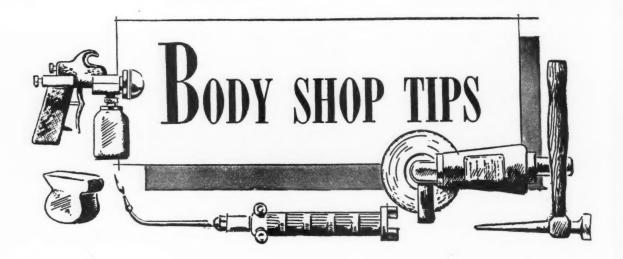


Patching a rocker panel which has been rusted through (above) is accomplished with explosive rivets (below). No bucking bar is needed, and the job is permanent and vibration free.



Blind riveting operations, such as installing a rain gutter (below) make good use of explosive rivets. Besides making a tight fastening, the resulting job is neat—needs no finish grinding.





RODY SHOP TIPS are worth

\$7.50

If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

Masks Antenna With Hose When Spraying

An idea for time saving when masking automobile antennas. Cut a three foot length of garden hose and slip it over the antenna after the base has been masked. John G. Knight, F & G Body Shop, 2501 N.W. 20th St., Miami, Florida.

Springs Hold Emblems Firmly to Trunk Lids

On 1954 Chevrolet cars the deck lid emblem has a plastic insert which, if given a hard bump with the hand, falls loose from the outer frame of the emblem. We remedy this by placing two springs under the plastic insert, between the plastic and the trunk lid. We use the type spring that is used under the vent regulator handles on the same model cars. Tension of this type spring holds the plastic in place without slipping. David Garrett, Mallory, West Virginia.

Old Regulator Sector Replaces Worn Teeth

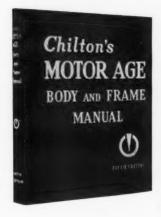
If a window regulator sector has some teeth worn off, cut a section of a discarded regulator to match a similar section, removed from the damaged unit, and weld it into position. The replacement piece need not be from a regulator of the same make, since teeth are the same on many types. Harvey Muller, Box 6, Danboro, Pa.

Crayon Protects Emblems from Paint

To save the time and troublesome work of masking small emblems or name plates, rub a wax drawing crayon over them. After the paint is dry the wax is simply rubbed off—leaving a bright clean surface. Albert H. Souder, 2536 Bryant Ave. So., Minneapolis 5, Minn.

Bolts Prevent Hood From Flying Open

I was having trouble with the hood on a 1953 Chevrolet truck. It became unhooked and flew up over the windshield. We found that the hinges didn't fit tightly along the cowl. I removed the chrome name plates on each side and with a quarter inch drill, drilled three holes, about two inches apart. Then I inserted ¾ inch bolts, nuts and washers on both sides of the hood. Then replaced the name plates, covering up the quarter inch bolts. Al Smith, Smith body Shop, Box 314, Lake Preston, So. Dakota.



Other valuable information of the type presented each month in The BODY SHOP is available in Chilton's Molor Age Body and Frame Manual.

Up-To-Date Body Parts Price List

1954 4-Door Models

Buick		DeSoto—continued		Ford—continued	
Roof Panel-4635791-41D	65.50	Front Door Hinge-		Roof Panel Assy.—	
Front Door-4632489-41D	68.75	1372229—upper	4.42	BA-7050200-A	64.50
Rear Door-4633836-41D	68.75	1372231—lower	4.02	Cowl & Top Panel-	
Rear Deck Lid-4630817-		Door Regulator-1305290-8	5.25	BM-7002010-A	27.00
41D	63.50	1492866—except 8 sedan	6.75	Pillar & Cowl Side Panel—	
Rear Quarter Panel—	00.00	Front Door Glass—1475760.	P.O.A	BA-7002042-B	17.05
4629838—41D	26.50	Rear Door Assembly—	1.0.21	Rocker Panel—BF-7310128-A	7.00
Wheelhouse Panel—4637608—	20.00	1547258	58.75	Front Floor Pan—	1.00
41D	26.50	Rear Door Hinge—	30.10	BF-7011135-A	90.00
41D	20.00	1371923—upper	2.95	Front Door Assy.—	30.00
Cadillac		* *	2.95	•	50.00
		1475304—lower	4.90	BF-7320124-A	30.00
Rear Fender—4627077—		Rear Door Glass—1475763—	10.40	Rear Door Assy.—	=0.00
5460S	58.50	except 8 sedan	12.40	BM-7324630-C	50.00
Rear Quarter Panel Assy		1304265—8 sedan	P.O.A	Quarter & Side Panel—	00.00
4629722—546219, 19X	102.00	Door Regulator Assembly—	2.02	BF-7327840-B	22.00
Roof Panel-4625698-6019X,		1304780—8 sedan	6.90	Rear Floor Pan-	00.50
6219, 19X	67.75	1372289—except 8 sedan	5.40	BA-7011215-A	32.50
Front Door-4625524-6019X		Door Remote Control Link-			
6219, 19X	72.50	1474708	.45	Hudson	
Rear Door Repair Panel-		Rear Door Lock-1305266-		E D A C 941000	40 05
4626172—1954, 6019X	27.75	8 sedan	4.85	Front Door Assy.—C-241660	46.25
Rear Deck Lid-4624314-		1474809—except 8 sedan	3.80	Rear Door Assy.—BO-241668	44.15
1954, 546019X	62.25	Door Ventilator Frame—		Front Fender—A-240188—	05 50
1001, 01001011	02.20	1455288-except 7 sedan	4.50	4D, 5D	37.50
Chevrolet		Ventilator Glass-1455285	P.O.A	A-240192—7D	43.50
Comb & Doob Assessible				Front Fender Extension—	
Cowl & Dash Assembly—	00.55			A-240370—4D, 5D	5.50
4638105	99.75	Dodge		A-240380—TD	5.25
Cowl Side Panel—4628339—	* 00	Hood Panel Assembly-		Hood Assy.—A-240057—	
1069	5.98	1541452—D53	46.85	4D, 5D	52.85
Front Door Outer Panel—	40.00	1434651—D50, 51	46.85	Front Fender Stone Guard-	
4596749—1069, 1269	18.30	Hood Hinge—1434900—	40.00	C-240296—4D, 5D	7.65
Center Body Pillar-4643455		D52, 53	6.95	C-240226—7D	5.00
— 1069, 1269	22.50	1435468—exc. D52, 53	6.95	Cowl Side Panel Assy	
Rear Door Outer Panel-		Radiator Grille Bar—	0.50	C-240400	6.50
4191752—1069, 1269	17.75		6.50	Cowl Side Panel Brace-	
Inner Rocker Panel—4594484	3.70	1494649—exc. D52, 53, top	6.50	C-240651	5.75
Outer Rocker Panel—4633252	11.80	1541073—D52, 53, top		Front Pillar Assy.—C-241063	39.65
Wheelhouse Panel—4636859	16.25	1494555—intermediate	6.57		
Rear Quarter Panel—4191863	56.20	1494588—bottom	6.20	Lincoln	
Ch)		1494648—center unit	8.50		
Chrysler		Bumper Face Bar—1489928—	00 10	Hood Assy.—BH-16611-B	103.45
Dash Panel—1547364	15.65	D50, 51	39.10	Hood Hinge Assy	
Front Door-1547252	58.75	1329450—D52, 53	33.00	BD-16796-A	8.60
Center Pillar—1528006	13.40	1341720—D50-1A, 51-1A	39.11	Radiator Apron & Deflector	
Rear Door-1547258	58.75	Front Fender—1541041—		—BS-16082-A	34.50
Quarter Panel—1476678	39.75	D50, 51	35.42	Roof Panel Assy.—	
Trunk Lid-1526473-8 cyl.	43.50	1541177—D52, 53	35.40	BD-7350202	68.00
1547387—6 cyl.	45.00	Fender Extension—1494815—		Cowl Top Panel-	
Roof Panel—1528066	129.70	D50, 51	2.00	BT-7302010-A	53.00
1526579—C66	173.45	1541215—D52, 53	2.25	Cowl Side Pillar & Panel-	
Wheelhouse Assembly—	110.40			BD-7302042-A	43.00
	15 75			Front Door Hinge Assy	
Body Lock Pillar—1528400	15.75	Ford		BA-7022800-B	3.60
20dy Lock Fillar—1528400 .	8.60	Package Tray Panel-		Frame To Dash Assy.—	0.00
D.C.		BA-7046506-C	5.50	BH-7301715-A	6.55
DeSoto		Luggage Compt. Door Assy.—		Dash Panel Assy.—	0.00
Door Assembly-1476236	POA	BM-7040110-B	45.00	BH-7301610-A	12.45
	U.A.	DM-IOTOLIU-D	20.00	DII-1001010-A	10.40

P.O.A-Price on Application-No Fixed List

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RY, 1955

ORGANIZATION



Means Good Teamwork (Part V)

Reviewing the qualifications of your personnel is the subject at hand in this, the concluding article in a series. Good organizational planning must be backed up by employees who will adhere to the plan as set forth

HE only thing wrong with business is the people in it." This familiar expression, a favorite comment of management specialists, provides appropriate text for our final discussion of this series.

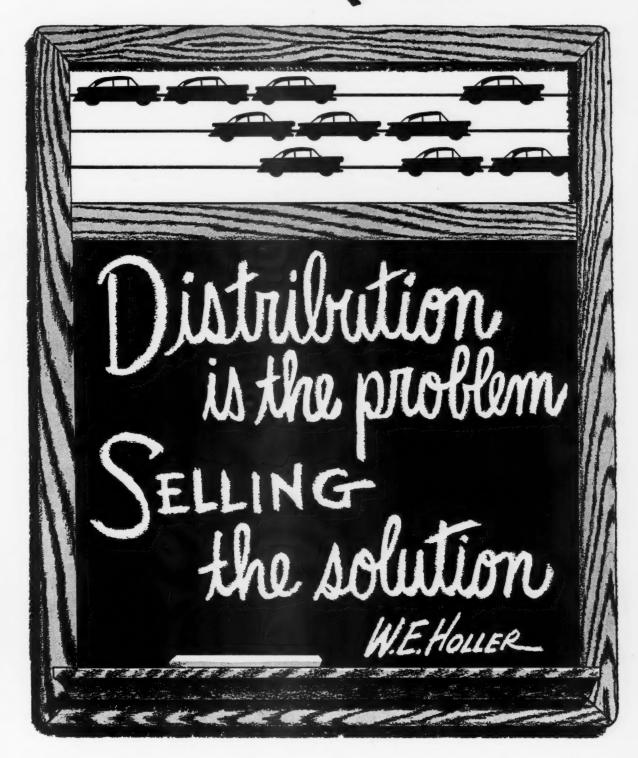
You have, presumably, developed an Organization Chart and Operating Manual which accomplish these aims:

1. Show every task and activity which must be carried on if your business is to operate properly.

2. Subdivide those items into logically related groups which, as depicted on the Organization Chart, make up major and sub-department groups for the assignment of authority and responsibility for getting every(Continued on page 113)

One to Remember

(FOR YOUR BULLETIN BOARD)





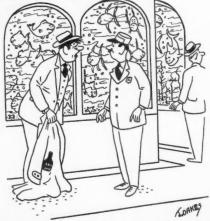
"Yes, sir, we have the cleanest rest rooms in the whole universe!"

FILLMORE'S NEW & USED CARS



"I guess you know why I've called this little meeting of the Sales Staff!"

AQUARIUM



"Y'got a swell place here, Mac, but the wallpaper is driving me nuts!"



"Any of this year's designs appeal to you yet, Alec?"



MW PRODUCTS SHOW WITHOUT

FOR FURTHER INFORMATION USE POSTCARD FACING NEXT PAGE

131 Brake Fluid Display

Wagner Electric Corp.: A metal-wire, point-of-sale merchandiser is offered by this company. The merchandiser displays one dozen 12-ounce cans



of Wagner Lockheed brake fluid. Design of the merchandiser makes it a forceful reminder, an attractive display and a handy stock-all in a minimum of space, according to the maker.

0il Display

The Bennett Pump Division of John Wood Company: The Bennett Oil Merchandiser with illuminated eye level advertising signs. The new merchandiser provides day and night selling impetus through a mass display of canned oil.

Advantages of the new display, according to Bennett, are its ability to increase oil sales by putting modern display methods to work on the service island, its ability to blend in with the other equipment in the

station, and the fact that in one, attractive housing everything is centralized, including display, can opener, and out of sight disposal for drained empty cans. Automatic drainage of used cans is assured, avoiding unsightly oil stains on islands and drives.

133 Merchandiser

R. M. Hollingshead Corp.: The Service Center stand is constructed of chrome-plated tubular steel with 8-inch rubber wheels. Imprinting of the dealer's name on the attached sign ties him in to national adver-



tising. By participating in Hollingshead's spring promotion, dealers can get a pair of German Genomat sports binoculars for \$1.00, it is stated.

134 Piston Ring Sets

Perfect Circle Corp.: The 2-in-1 chrome piston ring set continues to be featured as a basic component of PC power service. The top compression rails of the oil stopper oil rings in the set are made of chrome. The firm states that another feature of this set is its two



different sets of oil ring expander springs that provide a choice of spring pressures.

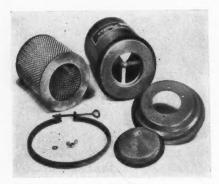
135 Speed Control

C. K. McCullough Co., Inc.: A new accessory, Auto Cruz, has been designed to permit controlled speed without use of the accelerator pedal. It is adaptable to all makes and models of cars and trucks. No adjustments on the Auto Cruz are necessary to maintain the desired speed, even when traveling up and down hills, the manufacturer states. Should the driver wish to slow down, merely touching the foot brake puts the car back in manual control. If the driver wishes to pass another car while in controlled speed, he simply presses down on the accelerator. The car then returns to the controlled speed setting when his foot is lifted from the accelerator.

(Continued on page 60)

Dry Air Filters

Purolator Products Co.: A line of dry-type Micronic air filters has been made available by this company. According to the maker these filters are smaller, and



lighter in weight than other comparable types. The Micronic element of resin-impregnated, convoluted cellulose which is said to provide 99 per cent efficiency in filtration of airborne particles.

137 Penetrating Fluid

Supersite Corp.: A non-flammable penetrating fluid, called Du-ol is being marketed by this corporation. The product is claimed to be a penetrating fluid (not an oil) that works quickly to free all frozen and rusted parts. It is further claimed that the fluid helps prevent squeaks at all rubber-to-metal action parts without swelling natural or synthetic rubber.

138 Ball Boot

Davis Ball Boot Co.: This company has marketed a ball boot that helps prevent dirt intrusion and resulting grease and oil leakage at the ball housing. This in turn helps prevent excessive wear at the ball joint and torque tube, according to the company. Made of Neoprene the boot features positive front and rear seals plus a built in rear collar lock. Installation of the unit itself is said to require only a few minutes.

139 Carburetor Cleaner

Graymills Corp.: This company has marketed a carburetor and metal cleaner denoted as Formula

606. The cleaner is claimed to clean parts thoroughly, and has no lingering odor. Said to have no water layer the cleaner will not burn the hands and rinses freely in water or solvent, the company states. Formula 606 is supplied in various sizes from 1 gallon cans to 55 gallon drums.

140 Synthetic Chamois

A. & S. Co.: A synthetic chamois called Handi-Chami has been marketed by this maker. Used for windows, cars and woodwork the chamois is said to be lint free and resist tears. The manufacturer further states it can be boiled or run through a washing machine and that oil and grease wash out easily.

141 Shock Absorbers

Thompson Products: The new shock absorber marketed by this company has an "automatic ride control" foot valve that is said to adjust the "Sky-Ride" to the type



of road being traveled to give a smooth ride. Manufactured in both the standard and heavy duty sizes the new shock, displayed in an attractive counter carton, will soon be available throughout the country.

142 Battery

Willard Storage Battery Co.: "Climate Control" is the main feature of this company's newest bat-

tery. The unit adjusts battery power output for summer and winter driving conditions by changing the water capacity. Adjustment is made with a manually-operated "key" which is inserted into the battery cells then turned to the setting indicated on the battery top. Other features of the battery include "safety fill" to prevent overfilling and "metalex" grids.

143 Primer Sealer

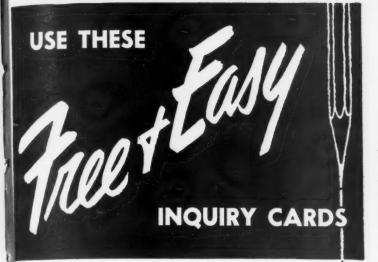
Martin-Senour Co.: A primer-sealer which is said to assure quicker and more exact matching of pastel colors in automobile refinishing has been announced by the automotive division of this company. Modern White P-S-G Cote can serve as a metal primer, a sealer over lacquer and old enamel finishes, and a ground coat for lacquer finishing materials. It may be used directly under off-white shades or be tinted with special tinting colors when used under pastel hues, it is stated.

144 AC Electrical Systems

Leece-Neville Co.: A low-cost line of 6 and 12-volt alternator electrical systems has been announced by this company. The new line includes light and heavyduty units with capacities of 12 volts, 50 amperes; also available are models with capacities of 6 volts, 60 amperes. Designed for



small delivery trucks the alternators are said to be competitively priced with extra output DC systems.



The Inquiry Card—How It Works

EACH month Motor Age's New Products Show Window describes dozens of fast-moving items and money and time saving equipment from the country's leading manufacturers of dependable automotive products.

When you want more free information on any of these products, simply mark a circle around the same number on the postcard as appears under the item described. You may circle as many items as you wish. Use either or both cards. Separate information will be sent to you on each item. Be sure to give your full name and address.

New Literature

145. Brake Parts Catalog

Supo Div., Lisle Corp.: A catalog of hydraulic brake cylinders, repair kits, parts, brake fluid and hoses has been released by this firm. The 52-page catalog contains a list of all passenger and commercial car applications, an interchange listing of all parts, a special buyer's guide and all cross-indexed for easy reference.

146. Decimal Equivalent Chart

U. S. Axle Co.: A large-size decimal equivalent wall chart designed to save time and computation work is now available through this manufacturer. Printed in bright red and black for maximum legibility, this chart contains a fraction-to-decimal conversion table plus a detailed table of standard screw threads and tap drill sizes.

(Continued on next page)

Postcard valid for 90 days only.

Please send me further information on the New Products, the code numbers of Catalog 146. Decimal Equivient 147. Cooling Syst Rubber Prod 145. 141. Shock Absorbers 139. Carburetor 140. Synthetic Chamois Frank P. Tighe, EDITOR MOTOR AGE P. O. Box 76, Village Station, N. Y. 14, N. Y. 142. Battery which I have circled below. **Piston Ring Sets Dry Air Filters** 35. Speed Control Merchandiser 131. Brake Fluid Oil Display Display

Display

Cleaner

132. Oil Display

140. Synthetic

133. Merchandiser

134. Piston Ring Sets

135. Speed Control

136. Dry Air Filters

137. Penetrating

143. Primer Sealer

Fluid

144. AC Electrical

150. E

Systems

Your Company

..... Car Dealer.....

...... Repair Shop

Your Business: Wholesaler

Year Business: WholesalerRepair Shop Car Dealer

(Street & No.)

Title

Your

Your Name.....

Your Company

(Zone)

(City)

Please send me further information on the New Products, the code numbers of Catalog 146. Decimal Equiva-Cooling System Piston Catalog Rubber Prodlent Chart **Brake Parts** Booklet 148. Primer Sealer AC Electrical 141. Shock Absorbers 139. Carburetor 140. Synthetic Chamois Cleaner Frank P. Tighe, EDITOR MOTOR AGE P. O. Box 76, Village Station, N. Y. 14, N. Y. Battery **Piston Ring Sets** 35. Speed Control **Dry Air Filters** Merchandiser 37. Penetrating **Brake Fluid** Oil Display Display Ball Boot

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New Products

Continued from Page 61

147. Cooling System Booklet

National Carbon Co. Div., Union Carbide and Carbon Corp.: A revised edition of the booklet "What Every Service Man Should Know About Automobile Cooling Systems" is now available from this firm. Included in this edition is the listing of cooling system capacities for foreign cars, in addition to the regular section on American cars. The four main sections of the manual cover such items as rustproofing, anti-freeze installation, hose failures and so on. A special feature of the booklet is a quick-reference guide to ten common trouble-shooting problems of cooling system service.

148. Piston Catalog

Ohio Piston Company: This company has published a fifty-one (51) page catalog covering products of their manufacture. Information concerning pistons with a ni-resist insert in the top ring groove is included. This publication also includes interchange information and a grinding specification chart offering instructions for the finishing of pistons.

149. Rubber Products Catalog

Quaker Rubber Corp. Div., H. K. Porter Co., Inc.: A 58-page case-bound general catalog on industrial rubber products manufactured by this company has been published. Illustrated and printed in color, the book is divided into sections for quick reference to a particular product or group of products. Performance data, specifications, and sizes are included in all sections. Charts on sizes, working pressure, weights, and all necessary technical information are included in the section on industrial hose and packing.

150. Electrical Booklet

Delco-Remy Div. of GM.: This company offers its new publication—the 1955 edition of the 20page booklet "12-Volt Electrical Equipment for Passenger Cars." The illustrated booklet describes Delco-Remy 12-volt automotive electrical equipment used on cars, including 1955 models. Recommendations for servicing and trouble shooting starting and ignition systems are included in addition to descriptions of miscellaneous electrical equipment such as horns.



Walt Faulkner powers out of a turn on a tricky leg of the race. There are over 6,000 turns on the first two days.

Road Racing At Its Toughest On The Pan American Proving Ground

Men and machines from all over the world take a real beating on the famous Mexican Road Race. Here's how they fared in '55.

By Chris Economaki

HE "Carrera Panamericana Mexico." the fifth running of which was held November 19-23, 1954, has become one of the major proving grounds for automobile manufacturers the world over. Since its inception in 1950 the Mexican Road Race has been firmly established as the world's most gruelling automotive contest.

In November, 150 cars with drivers from 12 nations in five classes started the 1,908-mile (Continued on page 102)

Built-in lifts along the rugged road make tire changes easier for drivers and co-pilots, who must do the job themselves.



The winning Lincoln is swarmed over by the service crew during the Mexico City stop. Job takes under one hour.

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MANAGEMENT CLINIC

Talent Helps Marsh Sell Cars

This Hudson dealer finds that his TV talent show does wonders as an advertising medium. Young performers on the showroom floor draw "live" audience as well as TV interest

ARION MARSH, Grand Rapids, Michigan, Hudson dealer, doesn't know which is more fun—selling new cars or giving ambitious youth a lift up the golden stairway of dreams! But he manages to do both at the same time with a television program that reaches 250,000 potential customers every week.

In the past two years, more than 400 youngsters have wiped their perspiring hands, gathered their courage and moved into the bright lights and camera range of western Michigan's leading amateur show.

"Talent Quest," a weekly television show over station WOOD, has its beginnings in every small town and village in western Michigan. Since Marsh is distributor for Hudson cars in the area, Hudson show rooms in Muskegon, Traverse City, Ionia, Hastings and other cities provide the first stages on which contestants can show their ability.

Parents, friends and neighbors gather in the show rooms to watch the youngsters perform with electric guitar, baton twirling and tap dancing—and at the same time get a good close look at the new models.

Winners are then scheduled for later per-



Nine year-old Garry Berg, of Middleville, Mich., a diminutive Arthur Godfrey, was winner on the 'Talent Quest' television show in Grand Rapids, Michigan, sponsored by the local Hudson dealer Marion Marsh. Garry is shown here with MC Bill Roh (left) and Marsh.

formances in the television studios of WOOD in Grand Rapids. Shows are set up in series with winners for each series. Winners are given an all expense paid trip to New York and the opportunity to appear on national amateur shows. Additional prizes and complete new wardrobes are given through the courtesy of other Grand Rapids dealers.

In the rear of his dad's bait shop in the little town of Middleville, Mich., nine-year-old Garry (Continued on page 120)



by Jack Montgomery,

Technical Editor

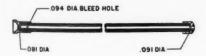
- One lifter noisy on Buick
- Hudson hard to start
- Dodge leaks oil
- Power steering trouble

One Lifter Remains Noisy on Buick

We are having a hydraulic valve lifter problem on a 1949 Buick. We removed all the lifters and replaced the faulty ones. Now just one of them is noisy.

> Bob's Auto Clinic Larchmont, Pa.

I IMAGINE you changed the filter and blew out all the lines including rocker arm assemblies. One thing that is overlooked on



VALVE PUSH ROD ASSEMBLY

these jobs is the push rods. The oil flows down through the push rod to feed the lifters. I would suggest cleaning the push rods and giving the lifter another chance.

READERS' CLEARING HOUSE

Trouble Shooting Problems

Hudson Hard to Start When Engine Is Warm

I have a 1954 Hudson Hornet with twin Carter carburetors. This car starts perfectly when cold, but when it's hot and I stop for ten or fifteen minutes and go to start, it just fires once. Then, I have to push the gas pedal all the way to the floor board, turn the engine over fifteen or twenty times before it will start.

Arch Diffenderffer 1321 E. Jackson St. Macomb, Illinois

USUALLY, this trouble results from excessive fuel pump pressure or a leaking needle valve and in some cases vapor lock. I would suggest checking the fuel pump pressure first and then the needle valves and seats. To cure the vapor lock make sure the fuel pump and gas lines are insulated or shielded from the exhaust.

Dodge Leaks Oil from Crankcase Breather Pipe

I have a 1942 Dodge that is using oil excessively. After checking it over I found that oil was dripping very rapidly from the crankcase breather pipe (which is located just behind the valve compartment on the right side of the engine), while the engine was running. I checked to make sure that the return posts in the valve compartment were open and found that they were and that there wasn't excessive oil in the valve compartment. Could this be caused by badly worn camshaft bearings?

> Lloyd G. Burns Buds Garage Victorville, Calif.

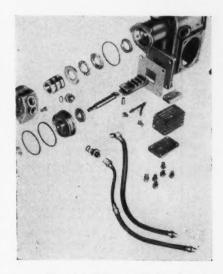
WHEN this condition exists it is usually due to the oil return hole in back of the camshaft being clogged. To open this hole it is sometimes quite a problem, unless the oil pan is removed. However, this has been successfully accomplished by attaching a piece of copper tubing to the air chuck. The tubing is bent in such a way to reach the return hole.

Power Steering Turns In Only One Direction

Recently we had a 1951 Buick which had power steering trouble. It had power for turning right, but none for turning left. We checked the pump pressure and it was ok.

Al's Auto Service Phila., Pa.

IT IS hard to put a finger on the exact trouble without seeing the job. In any case the unit will have to be removed from the



car. The trouble could be in the spool adjustment or in the power rack. I would suggest you read over the shop manual first and then make the various checks and examinations as recommended.

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Current Engine and Tune-up Specifications

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ENG			.q.H eldexsT	44.30 444.30 42.20 44.30 44.30 44.30 44.30 44.30	25.00 20.00	25 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	LeMans Dual 140-4600 AL-AL5B AL-AL76 With heater177-4400 with buretor an buretor an -7.5 with std trans8.4 with std trans.
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		MAKE AND MODEL		Buick* V8-40, 60 Cadillac* V8-50, 60 Cadillac* V8-1500, 2100, 2400 Chrysler* V8-1500, 2100, 2400 Chrysler* V8-68, C69 De Soto* V8-670 V8-827 V8	Ford* V8-40A, 40B Hudson	Oldsmobile	
							AGE, FEBRUARY, 1955

G COULT S FF CI USSS SSSCSS USSSS SSSCSS CG CH VSSS NN NCT Resident Court is seen to see in

Ch

Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of January 24, 1955. State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
UICK® Special 40 Sedan, 2d Sedan, 4d Riviera Conv. Coupe Est. Wagen Century 60	2035 2090 2128 2369 2726	198 201 204 221 248	2233 2291 2332 2590 2974	3695 3725 3700 3805 3920	DE SOTO: Firedome-S22 Sedan, 4d. Spec. Coupe. Sportsman Convertible Sta. Wagon Fireflite-S21	2268 2308 2413 2571 2893	185 188 196 208 232	2453 2496 2609 2779 3125	3870 3810 3805 4010 4185	HUDSON (Conti Super Wasp Club Sedan Club Coupe Sedan, 4d Hollywood Conv. Brghm. Hornet Spec.	2203 2252 2252 2473 NA	210 214 214 231 NA	2413 2466 2466 2704 NA	3490 3475 3525 NA NA	PACKARD (Cont Packard Patrician, 4d Coupe, 2d Caribbean, 2d	3728 3766	312 314	4040 4080	427 425 475
Sedan, 4d Riviera Conv. Coupe Est. Wagon	2315 2364 2727 2899	233 237 264 276	2548 2601 2991 3175	3825 3805 3950 3995	Sedan, 4d Sportsman Convertible	2481 2678 2875	201 216 231	2682 2894 3106	3940 3890 4115	Club Sedan Club Coupe	2345 2390 2390 2505	226 229 229 237	2571 2619 2619 2742	3515 3505 3650 3570	Plaza, 6 Bus. Coupe Club Sedan Sedan, 4d Suburban, 2d	1490 1582 1622 1897	123 130 133 155	1613 1712 1755 2052	302 308 312 326
Super 50 Riviera Sedan, 4d Conv. Coupe Roadmstr. 70	2578 2621 2945	253 255 280	2831 2876 3225	4075 4140 4280	Coronet 6 Sedan, 2d Sedan, 4d	1838 1912	150 156	1988 2068	3235 3295	Sedan, 4d Hollywood Conv. Brghm	2530 2733 NA	239 255 NA	2769 2988 NA	3620 NA NA	Suburban, 4d Savoy, 6 Club Sedan Sedan, 4d	1973 1674 1714	160 137 140	2133 1811 1854	328 310 318
Sedan, 4d	3047 3144 3234	302 -309 318	3349 3453 3552	4300 4270 4415	Suburban, 2d Suburban, 4d, 2s Suburban, 4d, 3s Coronet, V8					KAISER Special Club Sedan	2141	193	2334	*****	Belvedere, 6 Club Sedan Sedan, 4d Sport Coupe	1766 1806 1931	144 147 157	1910 1953 2088	31: 31: 31:
ADILLAC Series 62 Coupe Sedan. Coupe de Ville Convertible	3569 3658 3964 4097	313 319 341 351	3882 3977 4305 4448	4358 4370 4427 4627	Sedan, 4d Lancer. Suburban, 2d. Suburban, 4d, 2s Suburban, 4d, 3s Royal, V8 Sedan, 4d	2008 2087 2114	163 169	2171 2256 2285	3395 3375 3425	Sedan, 4d Manhattan Club Sedan Sedan, 4d Darrin	2192 2404 2453 3368	197 213 217 300	2389 2617 2670 3668	3210	Suburban, 4d Plaza, V8 Club Sedan Sedan, 4d Suburban, 2d Suburban, 4d Savoy, V8	2125 1678 1718 1993 2069	172 138 141 162 168	2297 1816 1859 2155 2237	33 32 32 33 34
Eldorado	5814 4342	472 396	6286 4738	4809 4540	Lancer Sierra, 4d, 2s Sierra, 4d, 3s Cust. Roys	2193	177	2370	3425	Custom Sedan, 4d Sport Cpe			3563 3666	4235 4185	Club Sedan Sedan, 4d	1770 1810 1862	145 148 152	1915 1958 2014	32 32 32
Series 75 Fltwd, Sedan Fltwd, Imper	5695 5895	492 507	6187 6402	5015	Sedan, 4d Lancer. Lancer, Conv	2265 2330 2521	183 188 202	2448 2518 2723	3485 3480 3610	Capri Sedan, 4d Sport Cpe Convertible			3752 3910 4071	4275 4305 4415	Sedan, 4d Sport Coupe Suburban, 4d Conv. Coupe	1902 2027 2221 2152	155 164 179 174	2057 2191 2400 2326	32 32 34 34
HEVROLET® One-Fifty, 8 cyl. Itil. Sedan	1450 1535 1575 1855	143 150 153 175	1593 1685 1728 2030	3040 3070 3115 3305	FORD® Mainline, 6 Bus. Sedan Sedan, 2d Sedan, 4d Customline 6 Sedan, 2d Sedan, 4d	Maria Car	Tarana and	1606 1707 1753 1801 1845	3026 3067 3106 3087 3126	MERCURY Custom Sedan, 2d Sedan, 4d Sport Coupe Sta. Wagon			2218 2277 2341 2686	3395 3450 3480 3780	PONTIAC Chieftain 8 Sedan, 2d 860. Sedan, 4d 860. Sedan, 2d 870. Sedan, 4d 870. Catalina 870.	1917 1972 2014 2069 2131	188 192 195 199 204	2105 2164 2209 2268 2335	333333333333333333333333333333333333333
6 cyl. Sedan, 2d Sedan, 4d Club Coupe Sta. Wagon, 2d. Sta. Wagon, 4d.	1619 1660 1675 1900	156 159 160 179	1775 1819 1835 2079 2127	3085 3125 3100 3325 3360	Fairlane, 6 Club Sedan, 2d Town Sedan, 4d Victoria			1914 1960 2095 2202	3088 3119 3198 3246	Monterey Sedan, 4d Hard Top. Sta. Wagon Montclair			2400 2464 2844	3500 3510 3770	St. Wg., 2d 860 St. Wg., 4d 860 St. Wg., 4d 870 Cus. Sta. Wag. Star Chief 8	2223 2301 2380	211 217 223	2434 2518 2603	31
Bel Air, 6 cyl. Jedan, 2d Jedan, 4d Jort Coupe Jony, Coupe Jan. Wagon, 4d.	1724 1765 1890 2018 2070	164 167 177 188 192	1888 1932 2067 2206 2262	3110 3140 3130 3280 3380	Sunliner. Crwn.Vict.,Tr. Top Sta. Wgns. 6 Ranch. Custom Ranch			2204 2272 2043 2109	3296 3254 3309 3326	Hard Top Sun Valley Convertible			2631 2711 2712	3490 3560 3685	Sedan, 4d Cust. Sed., 4d Cust. Catalina. Conv. Coupe	2156 2243 2284 2462	206 212 215 229	2362 2455 2499 2691	3: 3: 3:
One-Fifty, 8 cyl. Util. Sedan Sedan, 2d Sedan, 4d Sta. Wagon, 2d	1542 1627 1667	150 157 160 182	1692 1784 1827 2129	3000 3030 3075 3265	Cty. Sedan, 6p. Cty. Sedan, 8p. Cty. Squire Mainline 8 Bus. Sedan			2156 2287 2392 1706 1807	3474 3401 3485 3138 3177	NASH-HUDSON Rambler De Luxe Sedan, 2d Sedan, 4d			1585 1695		STUDEBAKER® Champion Custom Sedan, 2d Sedan, 4d		161 164	1741 1783	2 2
Two-Ten, 8 cyl. Sedan, 2d Sedan, 4d.	1947 1711 1752	163 166	1874 1918	3045 3085	Sedan, 2d. Sedan, 4d. Customline 8 Sedan, 2d. Sedan, 4d.			1853 1901 1945	3216 3197 3236	Super Sedan, 2d Sedan, 4d Sta. Wagon Custom			1869		Sedan, 2d Sedan, 4d Coupe, 5p Station Wagon.	1674 1715 1705 1952	166 170 170 188	1875	2 2 3
Club Coupe Sta. Wagon, 2d Sta. Wagon, 4d Bel Air, 8 cyl. Sedan, 2d	1767 1992 2037	167 186 189	1934 2178 2226 1987	3060 3285 3320 3070	Fairlane 8 Club Sedan, 2d Town Sedan, 4d Victoria Crwn. Victoria			2014 2060 2195 2302	3222 3253 3332 3380	Sedan, 4d Cty. Clb. Sed Sta. Wagon			1989 1995 2098		Regal Sedan, 4d Coupe, 5p Hdtp. Conv Station Wagon.	1815 1798 1941 2111	178 177 188 201	1993 1975 2129 2312	2 2 3
Sport Coupe Conv. Coupe Sta. Wagon, 4d	1857 1982 2110 2162	174 184 195 199	2031 2166 2305 2361	3100 3090 3240 3340	Sunliner Crwn. Vict., Tr. Top Sta. Wgns., 8			2304	3430 3388	OLDSMOBILE® Series 88 Sedan, 2d Sedan, 4d	2091	206 211	2297 2362	3688 3707	Custom Sedan, 2d Sedan, 4d	1695 1738	178 181	1873 1919	3 3
Corvette Convertible				2705	Ranch Custom Ranch Cty. Sedan, 6p Cty. Sedan, 8p Cty. Squire			2143 2209 2256 2387 2492	3443 3460 3598 3535 3619	Holiday Cpe Super 88 Sedan, 2d Sedan, 4d DeL. Holiday	2215	219 221 225 240	2474 2436 2503 2714	3707 3720 3762 3765	DeLuxe Sedan, 2d Sedan, 4d Coupe, 5p Station Wagon.	1785 1827 1804 2069	184 187 185 205	1969 2014 1989 2274	3 3 3
Windsor Sedan, 4d Vassau Vewport Conv. Coupe Fwn. & Cty. New Yorker	2412 2452 2559 2812 3037	193 196 204 223 240	2605 2648 2763 3035 3277	3925 3930 3925 4075	Thunderbird Convertible HUDSON—Jet Club Sedan	1465	156	2695 1621 1837	2986 2635	Conv. Coupe Series 98 Sedan, 4d DeL. Holiday Conv. Coupe	. 2641 2579 2798	253 254 271 286	2894 2833 3069 3276	3989 3884 3924 4159	Sedan, 4d Coupe, 5p Hdtp. Conv Station Wagon President	1932 1901 2076 2228	195 193 206 217	2127 2094 2282	3
Sedan, 4d Newport St. Regis Conv. Coupe Twn. & Ctv.	3185 3332 3367 3585 3850	254 265 268 284 304	3439 3597 3635 3869 4154	4160 4140 4125 4285	Sedan, 2d Sedan, 4d Super Jet Club Sedan Sedan, 4d Jet-Liner	1665 1685 1755 1775	172 173 178 179	1858 1933 1954	2715 2675 2710 2725	PACKARD* Clipper DeLuxe Tour.Sedan,4d	2373	213	2856	3680	DeLuxe Sedan, 4d State Coupe, 5p Sedan, 4d Hdtp. Conv	2102 2064 2168 2238	209 206 213 218	2270 2381	3
Imperial Sedan, 4d Newport Crown Imp. Sedan, 4d	4105 4325	323 340	4428 4665	4565 4490	Club Sedan Sedan, 4d. Wasp Club Sedan Club Coupe	1860 1870 2013 2056	186 187 196 200	2046 2057 2209 2256	NA 2760 3375 3360	Super Tour.Sedan,2d Coupe Custom Tour.Sedan,4d	2466 2550	220 226 237	2686 2776 2926	3670 3700 3885	Speedster WILLYS® Sedan, 4d	2713	141		3

[‡] Prices do not include delivery and handling charges.

VTS-Valve train solid.

ER -End of ramps used for timing.

(a)—CH-H-10 or AL-AG-5.

(I)-104-4000 with 7.50 std. comp. rat.; 106-4000 with opt. 8.0 comp. rat.;

(c)-1616 with std. trans.; 1815 with Oyn, trans.

193-4400 with opt. four parrel carburetor and dual exhaust.
Series 510 engine opt.

1955

NA-Not available.

^{*} F. O. B. coastal port of entry.

^{■ 1955} Models.

1954 New Passenger Car Registrations by Makes by States*

STATE AND MONTH	Buick	Cad-	Chev- rolet	Chrys- ler	De Sota	Dodge	Ford	Hud- son	Kai- ser	Lin- coln	Mer-		Olds- mobile	Pack- ard	Ply- mouth	Pon- tiac	Stude baker	Willys	Misc. Dom.	For- eign	Tota	-
(Nov	354	72	1945	98	50	209	1668	32	4	2		8 5	6 220	990	384 3842	483 3574	76 642	10	8	12 97		884
Arizona Nov.	5180 129	813 34	20568 496	832	535	1479	19010 465	241 10 117	42 6 48	2	0 11	0 3	3 77	229 18 215	69	139 1020	41	1	8	10	1,	767
Arkanese Nov.	1981 121	480 26	5271 954	363 42	255 32 334	580 83 900	5652 879 10510	20 185	30	1	3 8	9 1	2 151	7	174	199	50		1	2	35	867
California Nov.	2432 2763	463 792	10367 8487	408 652	535 4895	1006 9067	8675 94230	114 1732	1002	31	2 153	18 49	2 228	143	1602	3058 20094	885 9201			100 837	380	052
Colorado Nov.	38672 207 3551	11703 40 827	83574 890 10550	5837 71 851	35 432	99	687 10171	34 382	45	45	3 13 3 235	0 7	7 199 3 332	33	133	323 2375	653	3 21			41	058 019
Connecticut 11 Mos.	404 7340	128 1746	1330 16438	164 2167	113 1232	245 3135	1211 18577	48 705	153	5	0 32 3 416	174	8 591	80	6568	631 5557	1551	33		105	7 79	912 854
Delaware Nov.	90	10 299	493 4552	15 201	11	19 244	334 4162	45	1	14	9 73	54 36 10	6 106	1 8		118 946	241	1 4	3 1	6	1 15	303 270
Dist. of Col Nov.	103 1862	29 558	347 5499	28 511	17 360	41 615	224 4923	142	2	B 17	5 10		9 179	8 20	206	1687	7 314	4 4	3		9 22	.461 .538 .396
Florida Nov.	665 9580	141 2655	2564 29800	211 1930	122 1402	228 2559	2523 29646	53 550	18	0 111		18 14	9 807	85	7134	634	3 228	5 61	13 10		8 112	972 272
Georgia Nov.	407 7162	80 1255	2048 27375	69 1064	38 698	143 2142	1896 25755		13		9 43	89 7	51 23 23 522 19 7	8 41		612	B 147	1 2	26 5	15	3 90	.538 .261
Idaho	116 1843	17 363	407 3838	25 282	11 232	43 492	3426		4	7 14	14 10	49 3	79 133	3 10	4 97	5 99	6 48	2 1	87 57 1		2 16	, 402 , 589
Illinois Nov.	1799 37021	363 7819	5806 85355	390 6760	223 4644	546 9158	78132	4293	57	1 25	19 175		2925	9 324	1 2373	9 2027	4 560	6 8	94 159 31		0 345	.978 .081
Indiana	953 15566		3214 38193	263 2673	175 2287	406 4515 175	2703 38514 1548	1296	27	3 8	52 63			5 99	6 1000	3 956	3 516	4 4	45 4 12	4 17		,476 ,952
lowa	353 7293	1157	1907 23924	116 1390	921 112	2511 272	23912	493	17	9 4	33 41	29 11		2 35	5 520	9 488	2 153	6 1	77 1 25	2	8 85	,655 ,021
Kansas Nov.	502 6462 250	1143	2520 20633 1507	147 1138 73	852 58	2083 130	20180	616	23	7 4	44 36 14 1	68 15 30	02 526 41 23	1 40	5 466 2 26	9 471	0 148 3 16	0 2	17 4	2	4 4	,829
Kentucky Nov.	5244 288	762	17409		597 54	1558 143	1685	200	1 1	0 2	35 24 27 1	30 E	83 379 30 21	8 30	9 26	4 49	6 14	17	5		7 !	, 401 , 826
Louisiana 11 Mos.	4962	991	24063	928	687	1667 87	2025	120	D 10	2	11	59		38	0 11	8 22	25 5	54		2	9 1	, 489 , 780 , 430
11 Mos.	1724	4 285	562	365	400	188	463 140	2 5	3	7	28	339	47 11: 95 2	31	19 48	15 71	17 18	36	15		26	, 430 3 , 443 3 , 368
Maryland 11 Mos. Massachusetts Nov.	6673	3 1081 5 154	2003	221	227	416	2065 213	8 9	4	16	81	513	31 44 67 5 159 120	72	00 698 97 63 88 1213	117	79 20	09	42	. 1	06 1	0,033 5,008
Michigan Nov.	272	2 535	643	8 491	367	790	718	7 16	9	25 1	57 1	025	40 16 11 287	84 1	19 145	55 313	35 41	13	38	2	50 2	7,122 1,605
Minnesota Nov.	36	0 11	171	8 110	47	144	172	7 4	1	12	21	205		23	40 11 83 65	36 5	80 23	33	24		10	6,194 2,470
Mississippi Nov.	23	0 4	9 127	7 62	2 54	128	101	4	4	1	18	123		67	8 2 94 29	48 2	86 12 5	90 74	2		15 4	3,780 2,379
Missouri	60	2 16	4 311	5 13	14	262	288	32	9	13	40	389	134 6 869 94	67 8	16 100	83 81	20 21				77 13	0,251 2,551
Montana Nov.	7	8 1	7 47	2 2	8 1	62	2 28	37 2	24	5			345 16	12 98 2	38 13	81 8	55 4		16 160	6	22 1	1,427 9,881
Nebraska Nov.	33	5	8 124	5 85 13 85	9 46	9 136 2 126	101 5 1349	11	20 37 1	6		198 588	546 32	54 2	69 30	24 28	20 7			13		4,145 8,234 587
Nevada Nov.	2	29	9 16	11 15	9 12	4 21	7 13	88	25	11	82	31 355	138	31 35 73	53 4	45 3	159 4	48 100 22	44 16	2	88	6,371 915
New Hampshire Nov.	8. 123	32 21		27 29	5 23	9 62	7 33	98 3	17		114	41 710 862		145	20 13	74 12	284 3	376 154	145	13	95	6,208
New Jersey Nov.		86 440	395	21 576	5 365	4 570	7 428		25 83 5						13 158	32 147	778 35 181	515 42	818	27 1	079 1	00,333 1,665
New Mexico Nov.	8. 199 219	91 38	37 51	20 42	7 21	9 57	4 48	57	93 78	23 57	190	1078 1630	488 2	122	276 19	342 3	773	354 817	70 126		294	19,600 30,607
11 Mo	s. 434	59 973		94 1250	924	0 1591	0 923	48 32		7	26	250	62	455		327	687	159	11	1	10	6,867
North Carolina Nov. 11 Mo	8. 71	09 141	19 230		14 98	8 210		10	5	72	5	3434	16	98	9	71	92	245	274	16	135 1 15	84,016 1,346 18,538
Ohio	s. 13 18	73 2	46 51 71 57	50 35 49 43	34 43	18 76	4 43	07 2	86 31	36 70		824 1094	369 1		151 1	210 2	465	268 575 620	28 58 1020	73	64	21,786 91,268
Oklahoma Nov.	8. 305	59 58	92 669 32 16			16	78 16	343	28	772	33	5409 299 3657	63	762 2 465 157	13	135	440	129 980	7 86	2 7	3 76	5,476 65,149
Oregon Nov.	2	259	19 186 53 13	72	76	14 12: 77 1:	55 8	958	25	121	36	100 2492	96	218 1053	15	205	365	112	14 313	7	21 275	4,165 48,131
Pennsylvania Nov.	17	729 2		94 4	44 3		17 4	496	355 208 435	57	157	929	320	298	270 1	029 2	272	498 1666	147 1541	88	57	21,027 313,748
Rhode Island . Nov.	1	161		184	42	35	84	397	20	5 53	11 179	85 1310	50 748	120 1824	144 2	133 2176	232 1601	65 584	76	17	27	1,995 24,647
South Carolina Nov.	1 3	393	68 13	363	59	74 1	33 1		264 32 211	39	19 183	138 1451	46 293	277 2589	16	240	364 2642	88 483 36	108	7	110	4,648 41,466 1,240
South Dakota . Nov.		82	18	357 274 3	20 2	27	35 75 5	320 097	143	70	112	39 849	17 327	85 1385	160	64 1418	912	358	104	2	6	1,240 19,472 5,849
Tennessee Nov.	08. 6	387 598 10	72 1 048 23	938 1 983 9	104	66 1	84 1 07 22	440	23 289	54	322	3096	721	323 4821		380 6076	499 4554 2910	122 1138	11 179 67	24	123 40	79,630 29,137
Texas	os. 27	324 288 5	371 8 546 88	811 4 812 31	107 2 353 2	226 63 273 63	39 7 866 82	580 281	80 776	22 244	189	1192 16698	2333 2	2288 4674			0370 160	545 4443 28	462	56	335	307,255
Utah		150 2039	367 3				105 3	369 741	10 125	12 53 2	150	1052 23	18 291 15	132 1685 23	115		1184	260 19	109	2	29	17,074 727
Vermont Nov.			151 2				112 2	148 2426 1737	66	18 26	52 20	461 334	341 124	515 409	49	1100 438	755 849	216 275	90	7	60 38	10,837 7,552
Virginia Nov.	08. 8		538 24	598 1		420 2	740 27	7753 1152	1022	227	546 28	4981 182	1403	6315	775	438 8322 244	6816 368	1989	303	58	583 92	101,340 4,583
Washington Nov.	108. 4	300 1967 251	832 12			958 1		4582 514	545 20	133	390 15	2780 106	1645	4293 115	540 30	4212 137	2869	1414	245 16	6	612	56,425 2,636
11 N	los. 3	3086	492 8	3417	712	482 1 131	227 208	8226 2032	217 95	37 29	189 46	1424 313	459 305	1926 637	328 49	3044 286	2208 883	585 248	174 31	16	33 28	33,280 8,382
Wisconsin Nov.	108. 12			326 1	604 1 18	448 2 17	892 2	8174 252	918	275	585	4421 42	3478	9581 84	706	6152 42	7255 121	2019	471	29	239	109,858 1,121 11,359
Location Not Nov.		1278	262	2954	243			2615	106	15	80	587	210	1041	80	559	650	127	88		12	1,782
Determinable 11 N	1	0745		1433	ego .		902 0	313	2010	791	2413	16570	5745	27 . 24520	2426	7 .	38197	9679	1236	58	2402	381,081
Total November, 1	953 3								2910 4267	721 772	1450	29009	6253	18329	3158	47271	28378	10219	2109	381	1741	450311
Total11 Months, 1 Total11 Months, 1	954 1953 42	4474 91 7581 81	6908 122 9179 125	5395 88 9480 141	3705 67 1714 112	7968 135 2684 270			2644 32620	8756 22095	33765 36656	251934 259785	77170 3 129807 2		36856 3 67905 5	36815 3 53226 3	18019 60631 1	86727 50748	16748 40476	3287 12707		,907,137 ,325,082
* Data from R I	Dolly 4	t Co														-		-	,	-		

^{*} Data from R. L. Polk & Co.

Studebaker is the franchise of big new opportunity



32 years a Studebaker dealer and more than ever sold on the franchise



"In all our experience with the Stude-baker organization—and our association began in 1923—we have never entered a new-model year as confident as we are this year. We like Stude-baker's new low-level competitive pricing of course. But more importantly we like the vigor and drive of Studebaker's new merchandising policies. 'America's Friendliest Factory' is friendlier than ever now in its dealer-minded attitude."

—Ralph Farmer, Sr., President, Farmer Motor Co., Lexington, Ky.



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"You feel you're really getting somewhere if you're a Studebaker dealer right now. I know. I hear from dealers all over this area who want to find out if the Studebaker franchise is as good as it's purported





Bernard T. Redrow Norman W. Redrov

to be. I tell them yes. I joined with Studebaker because I wanted to be with a real 'growth' outfit—and that's what this gogetting Studebaker management surely is."—Bernard T. Redrow, Partner, Bernie's Motor Sales, Dayton, Ohio.

You have already seen the resourceful new Studebaker-Packard Corporation team score a ten-strike for Studebaker dealers.

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New low-level Studebaker pricing is playing an important part in this electrifying upsurge in sales.

In addition, Studebaker dealers are cashing in on the constant news-making that is part and parcel of Studebaker-Packard Corporation's forward march. That's the reason Studebaker dealers like what's happening—and that's the way we intend to keep things progressing.

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There is room for a few more dealers on this victoryminded Studebaker team backed by the resources and the constructive initiative of the great new Studebaker-Packard Corporation.

Write immediately to Director of Sales, Studebaker Division, Studebaker-Packard Corporation, South Bend 27, Indiana.

STUDEBAKER

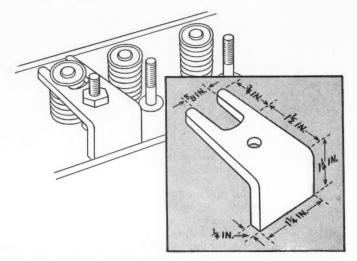
STUDEBAKER DIVISION OF STUDEBAKER-PACKARD CORPORATION . . . WORLD'S 4TH LARGEST FULL-LINE PRODUCER OF CARS AND TRUCKS

1955



If you have an original idea for a special tool, a short cut on a job or any trick of value to others, write it down and if necessary make a rough sketch. Just make it clear. Send it to Motor Age. If your Kink is used it may bring you \$7.50 or \$25. All entries become the property of the Chilton Company. Because of the quantity of entries sent in, none can be returned.

Devises Tool for Removing V-8 Chevrolet Valve Springs



The 1955 Chevrolet V-8 engines require a special tool to remove and replace valve springs or caps without removing the heads. We have devised a tool for this, which we have used for some time, the operation can be done much quicker and easier than if the heads have to be removed. To use this tool, it is necessary only to remove the rocker arms and push rods. Then place the tool over the rocker arm stud, and screw a regular S.A.E. nut down. This will cause the tool to compress the spring until valve keepers can be removed. Carl Thoresen, Rapids Chevrolet Co., 601 First Ave., S.E., Cedar Rapids, Iowa.

Pans Stop Oil Splash When Adjusting Valves

I've found a way to keep the oil from splashing on the manifolds while adjusting the valves on the 1955 Chevrolet V-8 engine. I made a set of pans that are fastened to the head with stove bolts in the two lower valve cover holes. The pans are 18 inches long and 3 inches wide with a 1/4 inch edge turned up on one side and on both ends. The other side is turned 1/4 inch, except that two tabs each 3/4 inches long in line with the bolt holes are left straight. Split four 5/16 inch nuts on a diagonal and solder them on both sides of the pan tabs, in line with holes in the head. Drill 1/4 inch holes through nuts. This will hold the pans on an angle and let oil run back into the valve chamber. Cut a ½ inch hole in the right hand pan in line with the choke stove tube and solder in a 1/2 inch tall thimble. Cut a 1 by 4 inch offset in the outer front of the left hand pan to clear the generator. The tin for the pans can be cut from any five quart oil can. Howard McKee, Kane Chevrolet Co., DeSoto, Mo.

Brass Tacks Used to Repair Small Holes in Gas Tanks

Soldering small holes in gas tanks usually necessitates removing the tank. We have found the following method more efficient. Drain gas, clean and tin spot around the hole. Sweat solder on

(Continued on page 72)

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1955

LESS SALES RESISTANCE MORE RING INSTALLATIONS MORE PROFIT

then install the rings preferred by more people than any other brand...Perfect Circles



And why this preference? Because Perfect Circle's 2-in-1 Chrome piston ring set has both the TOP ring and the OIL ring plated with thick, solid chrome! Entire area of ring travel gets complete wear protection more than doubling the life of cylinders, pistons and rings. Customers are assured thousands of extra, satisfying, economical miles of sustained power and positive oil control! No tedious break-in as rings are lapped-in at factory. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.

Perfect Circle 2-in-1 chrome piston rings

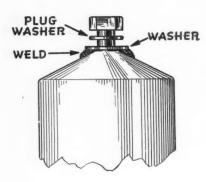
The Standard of Comparison

Shop Kinks Continued from Page 70

the shank and bottom of a brass thumb tack, push into the hole and heat with the soldering iron. Hold the tack with a screwdriver and remove the soldering iron. When solder is cool remove the screwdriver. For larger holes solder a ½ inch length of welding rod to the middle of a piece of heavy shim stock and proceed as above. J. W. McGill, Wright Truck Line, Stayton, Oregon.

Modifying Dodge V-8 Oil Filter Covers

I have modified several Dodge V-8 oil filter covers. After the filter has been changed a few times the fiber washer at the top becomes broken or cracked and the surface where it seats becomes irregular. I remove the long bolt and weld a flat washer on top of the filter cov-



er, being sure the washer will just slip over the long bolt. Then I use a new 14 mm plug washer for the gasket. A new plug washer can be put on very easily every time the filter is changed. Gerald Taylor, Taylor's Auto Service, Maysville, Missouri.

Weld on Lower Shift Lever Prevents Slipping

Here is a sure cure for Chevrolets (1949-53), Kaisers (1951-54) and Henry J's (1951-53) that stick in low gear and will not shift. Remove lower shift lever and weld \(\frac{1}{8} \) inch to 3/16 inches on the tip

of the lower lever. Then file it square so the lower and upper lever have 1/16 inch clearance. This prevents the shift rod from slipping out of place. Earl C. Miller, 3 W. Main St., Lonaconing, Maryland.

Makes Handy Tool For Replacing Cylinder Heads

On some of the late model cars, the engine is so close to the block that it is impossible to use long pilot studs. My idea is to take two studs 1½ inches long, drill a 5/16 or ¼ inch hole in the top, tap left hand threads, and use two matching bolts to remove the studs from the block after the head is in place. Robert E. Blair, P.O. Box 53, Essex, Calif.

Wrist Pin Used as Tool To Overhaul Universals

When overhauling Detroit universals I use a Pontiac wrist pin to press out the universal pin. I cut ¾ inch from the lock hole side of the wrist pin. The ¾ inch piece is the press fit spacer and the remainder of the pin is used for a guide. A ½ inch piece of steel scrap will hold back the housing and boot. John M. Austin, c/o City Motors, 400 W. Verona Ave., Pleasantville, N. J.

Develops Tool to Install Camshaft and Lifters

I made a handy tool to save time when installing camshafts and lifters in a 1955 Mercury. I take a piece of ¼ inch copper tubing 14 inches long, bend one end to make a handle, then solder a piece of sheet metal, bent as shown in sketch, to other end of tubing. The bent sheet metal slips over the lifter. Milton J. Marvin, Ernie Bell, Inc., 221 N. Main St., Royal Oak, Michigan.

Leave Water in Radiator When Overhauling Engine

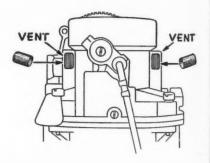
Many engines will overheat after being overhauled. We plug the lower hose of the radiator and keep the radiator full of water while working on the engine. Lime deposits in the tubes will not harden and the overheating factor will be eliminated. L. H. Elwood, Elwood Motor Supply, Gordon, Nebraska.

Special Tool for Holding Upper Support Arm Bolt

When adjusting caster and camber on 1955 Chevrolets it is a problem to hold the bolt, while loosening the nut, to add shims. I took a $\frac{5}{8}$ box wrench and bent it so I can hold the bolt from above on either end of the bolt. James A. Rueb, D. B. Gray Chevrolet Co., Kinderhook, Ill.

Fuel Filter Screens Keep Idle Passages Open

On Rochester carburetors we find dirt particles entering into the float chamber through the vent hole in the air horn. This stops the low speed vacuum feed jet near the bottom of the fuel chamber of conventional and Powerglide carburetors.



To remedy this condition we use two fuel filter screens slipped into vent ports from the under side. When the carburetor top is removed, these screens fit the openings snugly. Robert B. Reid, O'Reilly Chevrolet, 4349 E. Lester, Tucson, Arizona.

CI

Independents:

What's blue and white and read all over by Ford owners?



There's no riddle to getting more Ford business into your garage. Just let Ford owners know you carry the right parts for their cars by hanging up this Genuine Ford Parts sign. Once they see it—they'll make a beeline for your service.

• And here's the big reason why. Year-round advertising in national magazines constantly reminds Ford owners how "right" Genuine Ford Parts are for their cars. And a Genuine Ford Parts Oval outside your garage quickly identifies yours as the right garage for Fords. This blue and white sign will make you stand out from your competition.

A Genuine Ford Parts sign will help you capitalize on Ford's consistent national advertising and on the ever-growing number of Fords on the road . . . if you are set up to handle Ford service business. And, remember, your "stock" of Genuine Ford Parts is as near as your nearest Ford Dealer's.

Here's all you do to get a Genuine Ford Parts sign in a hurry.

Just fill out the coupon below and mail it to us. We'll let you know how easy it is to have an attractive Genuine Ford Parts sign pulling more Fords into your garage.

WAIL	I HIS C	OUPUN	NOW	
PARTS AND	SERVIC	E SALES	DEPART	MEN
Ford Division, Ford	Meter Cor	npany, Box 65	8, Dearbor	n, Mic
Please send me				

Please send me complete information telling me how independent garages can get a Genuine Ford Parts sign. I'd like to cash in on this, too!

PIRM NAME.

INDIVIDUAL'S NAME.....

CITY STATE

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Ford, Lincoln, and Mercury all improved their industry position—Mercury going from eighth to seventh, and Ford from a distinct second either to first or to a virtual tie, depending on the final registration figures for the year. Lincoln also picked up in market penetration, going from 17th to 15th.

Among the independents Studebaker, Nash, Hudson, and Willys lost position and Packard, Kaiser and Henry J remained the same.

In total production, however, Chrysler and the independents as a group fared very badly in percentage of industry, while Ford and GM made substantial gains. Latest available figures indicate that General Motors had about 51 per cent of the market, and Ford about 30 per cent. Chrysler dropped to approximately 14 per cent, and the independents 5 per cent.

The poor showing of Chrysler Corporation last year cannot be ignored when looking at Ford and General Motors' gains because the two certainly are not unrelated. It is very doubtful that GM and Ford could have made anything like the gains they did had Chrysler been in the market with a car designed and styled to the public's taste. That situation certainly has been remedied to a considerable degree, judging from Chrysler sales reports. The company is aiming to recover its position of about 21 per cent of the market and the big question is where the extra seven per cent will come from

If General Motors and Ford succeed in their objectives of retaining their 1954 percentage of the market, about 81 per cent, Chrysler could get only a maximum of 19 per cent, and the independents nothing at Obviously, this conclusion is hardly supportable, and simply indicates that one, two, or possibly all of the Big Three will not get the percentage it is shooting for. The independents also are optimistic about getting a larger cut of the pie. Studebaker-Packard has set its objective as 100,000 and 200,000 Packards bakers, or about 5 per cent of the expected market in 1955. American Motors has not made any definitive forecast but says it will build more cars than Studebaker-Packard, indicating a goal of at least 5 per cent. Willys admittedly is not emphasizing its passenger car line for next year but certainly should account for at least some small percentage of the market.

Obviously the market penetrations projected by the various companies add up to considerably more than 100 per cent and it is equally obvious that some, or perhaps all, are not going to realize their ambitions. But that does not mean they won't blow a gasket trying.

(Continued on page 76)

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AGS PRODUCT

 RuGLYDE is the registered trade-mark of AMERICAN GREASE STICK CO-MUSKEGON, MICHIGAN

facturers for use on tubeless tires.

TUBELESS TIRE CHANGING made SAFER and EASIER with

BUGLYDE

THE ONLY LUBRICANT
THAT MEETS ALL REQUIREMENTS
FOR TUBELESS TIRES

WARNING: Ordinary Mounting Methods
Can Damage Tubeless Tires.

Tubeless tires require specialized mounting and demounting methods different from conventional tires and tubes. Do you know why tubeless tires should not be mounted dry—and do you know why it's positively necessary to guard against damaging the rim-seal ridges and bead toes when mounting and demounting—and do you also know that certain lubricants soften rim finishes, and that others cause rim rust and corrosion?

RuGLYDE SERVICE KIT

AUGLYDE

LUBRICANT

This life-time Kit includes a special Ru-GLYDE brush to clean rim-seal ridges of tubeless tires, and a special applicator for lubricating the sealing ridges and base of beads before mounting and demounting. Ask your supplier about the big discount introductory offer on the RuGLYDE Service Kit.

Free New Folder tells how RuGLYDE and Service Kit can make tubeless tire servicing safer and easier. Write AGS Company for your free copy today.

BE SAFE! BE SURE! Use the Ru-GLYDE Service Kit and RuGLYDE the only 100% safe and effective lubricant for tubeless tires. RuGLYDE meets all industry standards . . . Protects the vital air seal of tubeless tires. Makes both mounting and demounting safe and easy. Applied to the toe of the bead and rim-seal ridges, RuGLYDE makes bead seating easy, even on safety rims. Prevents scuffing or tearing tire bead toes or rim-seal ridges when using either tire changing machines or hand tools . . . safeguards against bead slip-page after inflation. Will not induce rust or harm paint finishes. RuGLYDE is the only rubber lubricant recommended by leading tire and car manu-

Chilton's MOTOR AGE, FEBRUARY, 1955



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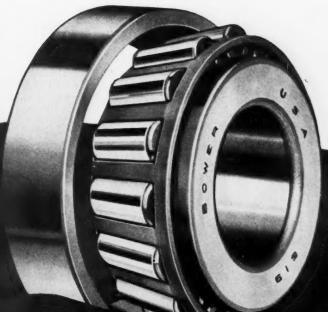
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Quality... Service

BOWER TAPERED AND
STRAIGHT ROLLER BEARINGS

When you install a Bower tapered or straight roller bearing, you know you are working with a quality product. Original equipment manufacturers depend on this fact.

Automotive service men, too, depend on Bower quality . . . and Federal-Mogul service!

Ask your Federal-Mogul Jobber!



FEDERAL-MOGUL SERVICE

Division Federal-Mogul Corporation

DETROIT 13, MICHIGAN

Perhaps as good a way as any to look at the pending bitterly competitive year is to take a look at competition among the Big Three, and then how the independents line up against the leaders. There is a growing feeling that 1955 will be a crucial year for the smaller companies in the industry, with Ford, GM, and Chrysler engaged in a grim battle which is bound to affect some innocent bystanders.

Ford and General Motors both have spent billions of dollars since the end of the war enlarging. improving, modernizing, and otherwise expanding their production facilities for efficient lowcost volume production. Chrysler to a somewhat lesser extent has also increased its facilities and has gone a long way in modernizing through up-to-date equipment. As a result, the three giants have tremendous basic financial and organizational strength, and it will be brought to bear upon each other as well as the independents this year.

The smaller companies also have taken steps, particularly within the last year, to streamline their organizations through mergers and integration which has reduced the number of independent companies from six to three. They admittedly have made great strides in eliminating duplications and overhead by shucking off obsolete and unneeded facilities and reduction in personnel through more efficient organization.

Evaluating the competitive position of the independents, it would seem that so far as passenger cars are concerned Studebaker-Packard and American Motors are in for a very tough fight against the solidly entrenched big companies, all of whom have brand new models this year with the exception of Oldsmobile, Cadillac, and Buick, who brought out their new lines a year ago. The independents feel, however, that they offer certain distinctive features not available from the Big Three and that the demand for their cars can and will be large enough to constitute satisfactory volume. They point out that they do not have to sustain the high volume that the large producers do to make money. 1955 will tell whether or not their calculations are right.

As for size of the market this year, best indications now are that it should exceed 1954 by about 10 per cent. Most optimistic prediction is for 5.8 million sales this year, which would be the second best year in history.

To reach that figure, however, is going to require extremely intensive selling, with considerable discounting and overtrading likely to be very much in order. The 1955 new models got off to a very healthy start after an orderly clean-up of 1954's which lowered

(Continued on page 78)



Tow Heavier Loads .. Faster . . . Sater

• This MANLEY Heavy Duty TOWING HITCH (No. 2209) gives closer, safer hook-ups on heavy loads with strength to spare.

Special, quick-tightening chain lock mechanism and two big, deep-throated grab hooks cut hook-up time in half.

Telescoping action of rugged

shock-absorbing tubular steel arms allows closer, better balanced loads-with automatic load centering for off-center hook-ups.

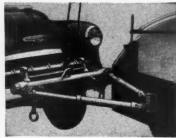
Permits full brake application at highway speeds. Telescoping

arms absorb shocks, jars, bumps.

Turns in safety. Wrecker and towed vehicle can't touch.



Closer hook-up



Safer turning

• The best-equipped garage gets the profitable business. See your MANLEY Jobber today.

ACCO	Manley	Divisi	ion	
40	AMERICAN (CHAIN	&	CABL
T. Salley	York, Pa., Chicago.	New York, P	ortlan	d Ore

San Francisco, Bridgeport, Conn. In Canada:

nion Chain Company, Ltd., Niagara Falls, Ontario

MANLEY DIVISION American Chain & Cable, York, Pa.	MA
Please send literature an of MANLEY Heavy Duty Towing No. 2209.	d price Hitch
Name	
Address	

MAIL TODAY

This tag will tie your batteries to U.S. Peerless® Rubber Separators' national advertising



If you are a maker or merchandiser of batteries equipped with U. S. Peerless Rubber Separators, then be sure to hook one of these tags on each battery. The tag will remind your customers instantly of the U. S. Peerless Rubber Separator ads that appear in The Saturday Evening Post. These ads tell millions of motorists that Peerless-equipped batteries are the finest on the market. SO HOOK UP TO THESE ADS WITH THIS TAG!

- The tag slips on quickly and easily to the battery post.
- The tag dresses up the battery.
- It can also be used as a price tag.
- It gives the salesman more ammunition to sell premium grade batteries.

Write today for your free supply of these tags. And read the U. S. Peerless Rubber Separator ad in the February 12 issue of The Saturday Evening Post.



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1955

UNITED STATES RUBBER COMPANY

BATTERY SEPARATOR SALES DEPARTMENT . ROCKEFELLER CENTER, NEW YORK 20, N.Y.

dealer stocks to a very comfortable point. Inventories are on the rise again, which is normal for this time of year to build up for the spring market. However, automobile production capacity is so great that even with good selling dealer stocks again could get out of line by mid-year unless manufacturers voluntarily ease

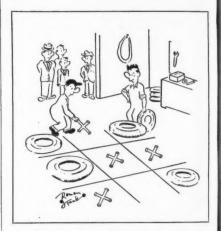
off on the production throttle.

While sales have been going extremely well during the early part of the 1955 model season there already are many omens of the rugged competition which will prevail this year. Actually, some new models were bootlegged even before the official announcement date and that condition is still

going to prevail despite freight adjustments which cut the differential between plant cities and distant delivery points.

Discounting and overtrading also appeared at the outset of the 1955 model run, which is not anything out of the ordinary. Price packing also is widely prevalent and creating considerable discussion. However, this appears again to be merely one of those devices to stimulate sales and make possible a greater over-allowance and still leave the dealer an adequate margin.

It locks as though this will be the nearest approach to the normal automotive selling year since the late 30's. 1954, for the most part, had most of the aspects of a normal year but the unusually high inventories in dealers' hands at the beginning of the year complicated the picture somewhat.



Also there were still some vestiges of the blitz sales in late 1953 carrying over into early 1954. In general, the industry seems to have settled down now to a pattern of hard selling, but with a sense of responsibility on the part of the manufacturer to key production reasonably to potential.

The only clear and present danger visible to a full year of unrestricted production is the threat of a strike by the UAW-CIO when it goes after a guaranteed annual wage and other benefits when five-year contracts start to expire at the end of May. If a strike comes, it may be long and bitter, and play havoc with the "target" company, its workers, and dealers. It still is too early, however, to speculate on whether that will happen.

HELLER X E Nutomotive

milled curved-tooth files

Originated by Heller, the VIXEN is still the best metal finishing file. The curved teeth are like miniature milling machines, cutting fast and clean. The self-clearing action of the deep, curved gullets results in smooth, scratch-free finish.



Newcomerstown, Ohio Branches: New York, Detroit, Chicago



AC SPARK PLUG DIVISION

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1955

GENERAL MOTORS CORPORATION . FLINT, MICHIGAN

SLIMMER THAN EVER

MEET THE NEW CHAMPION IN THE LOW-TENSION CABLE CLASSI IT'S PACKARD LOW-TENSION CABLE WITH "404" INSULATION.

Packard Low Tension Cable with New "404" Insulation!

BUT MIGHTY TOUGH!

Simmer... because it needs no braid. That means it is easier to install in tight places. Tougher... its abrasion resistance is equal to lacquered braid.

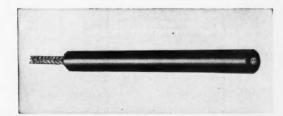
Packard "404" insulation is different from ordinary commercial plastics. This compound was developed especially to meet all automotive requirements without the use of braid.

The "404" insulation is oil-proof, flame-proof, moisture-proof, acid-proof, and it does not age. Think what that means in safety and long life! It is original equipment on the majority of the new cars being made. Millions of feet are made daily for the production of cars, trucks, buses and tractors . . . and it is lower priced.

You will be adding accessory circuits to vehicles equipped with this cable. Get a stock of this Packard low-tension cable from your Packard jobber . . . also these other members of the "BIG 3" in the cable business, shown at the right.



PACKARD BATTERY CABLES—used on more new cars, trucks, buses, and tractors than any other make. Now Packard LEADALLOY battery cables are insulated with Packard's new "809" compound—positive protection against acid, grease, oil and heat. All Packard battery cables are built to deliver full starting power—all enjoy wide acceptance everywhere.



PACKARD TELEVISION-RADIO SUPPRESSOR IGNITION CABLE—recommended where ignition interferes with radio and television reception. Also used to suppress interference in two-way communications systems in automotive, marine, aircraft and other applications. Supplied in kits and factory-made sets.



Packard Electric Division, General Motors, Warren, Ohio

FOREMOST BUILDER OF AUTOMOTIVE WIRING

LOWEST PRICES NEW FEATURES

HAVE YOU CHECKED JACK PRICES LATELY? Now you can get even more for your money when you buy BLACK-HAWK Hydraulic Jacks! First — this top quality line now comes to you at new low, low prices — the result of efficiences in manufacture and design. And new features add even more reasons why Blackhawk Jacks last longer and are so trouble free! There are new models, too, like the 1½ ton Bumper Jack and Axle Jack. So dollar for dollar, feature for feature—today's best buy on all counts is BLACKHAWK!

MORE INCOME FOR YOU — Use Blackhawk Jacks to service the profitable big-truck trade and speed up other shop jobs.

They're the No. 1 resale line, too! Order from your jobber today! Blackhawk Mfg. Co.,

Milwaukee 46, Wis. Dept. J-625

JACK BOX SCORE BLACK LINE LINE HAWK among the 3 jack lines most sold to fleets X 2 MACHINED STEEL PUMP HOUSING — Guarantees longer life because pump cups operate within a smooth micro-finish steel cylinder (NOT in a hole bored in the base casting). YES NO NO MALLEABLE IRON TOP CAP — Greater strength to withstand off-center loading — gives rigidity to entire jack — prevents leak-YES NO CROSS-MILLED HEAT-TREATED SADDLE — A safe, sure grip on greasy, icy axles at all times. Teeth stay sharp as a hound's tooth — never wear smooth like ordinary saddles. YES NO NO REPLACEABLE PUMP AS-SEMBLY — The parts that get the most wear. Com-plete cost only \$2.06 — can be replaced in the field with ordinary wrench. (Pump is not part of a costly base casting.) YES NO NO 68% INTERCHANGEABIL-Y OF WORKING PARTS Applies to all models to 20 tons. Assures wer maintenance and re-YES NO NO pair costs — faster service if repairs should become necessary.



Suggested U. S. dealer net prices — subject to change without notice

BLACKHAWK

Carburetor

Continued from Page 50

highly important because it governs the rate of flow of fuel into the carburetor bowl.

During float adjustment, be sure there is no binding or drag in the movement of component parts of the assemblies. Make certain that traveling parts, such as float arms, will not catch or rub on float-bowl or air-horn castings when the car is on grades or brought to sudden stops.

Third is the accelerating-pumprod adjustment, which governs the length of travel of the pumpplunger rod when the throttle valves are rotated from fully closed to wide open, thereby controlling the volume of fuel ejected from the pump jets.

Measure the pump-plunger-rod travel with a gauge or tool recommended by the manufacturer. First, back off the throttle-stop screw so that the throttle valves will seat fully in the carburetor bores. To do this, back off the fast-idle screw to a point where it will not interfere. Or, hold the choke in the open position and the counter-balance weight, trip lever, and fast-idle cam in a position to insure no interference from the fast-idle mechanism when the throttle valves fully close.

Then take the specified measurement from the top edge of the air horn to the bottom edge of the pump-plunger rod. If the measurement conforms to specifications, no adjustment is necessary. If the adjustment is not correct, change it by bending the pump rod.

(Continued on page 86)



quick profits

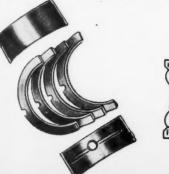


with the rings you know!

You can bank your profits on a job you do with CHROME-CONTROL LEAK-PROOF Piston Rings the very day it's finished because the job won't be back. They seat quick, they give quick customer satisfaction—and that adds up to quick profits.

McQuay-Norris Manufacturing Company, St. Louis 10, Mo.

McQUAY-NORRIS BEARING SERVICE

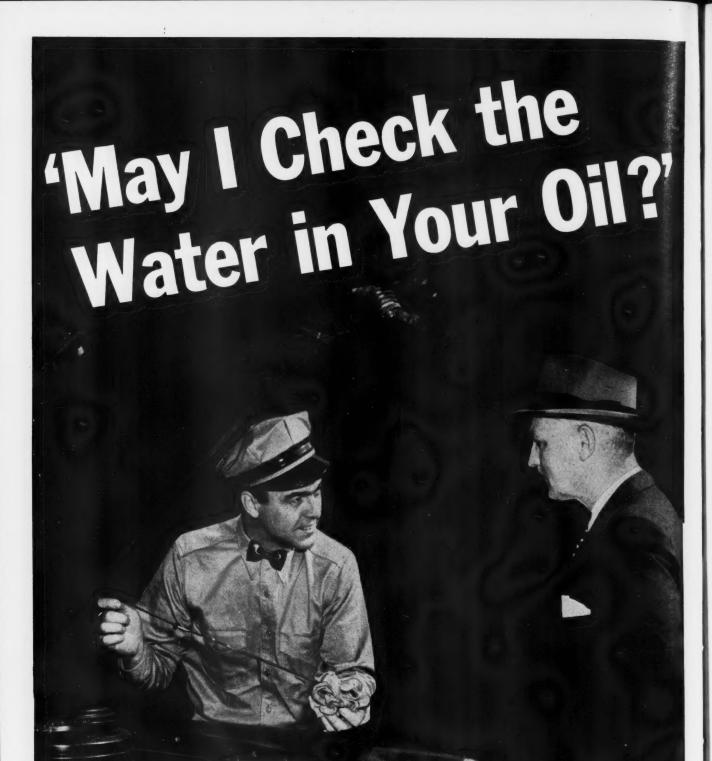


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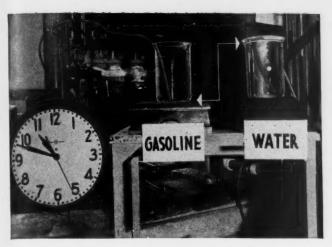
CHROME-CONTROL LEAK-PROOF PISTON RINGS WILL OUT-PERFORM ANY OTHER SET IN THE "HARD-TO-HOLD" JOBS REGARDLESS OF KIND, DESIGN OR PRICE.





That's the most important question you can ask your customers. Water is the most objectionable of all oil contaminants. Nine out of 10 motorists do start-stop, cold-engine driving which leads to excessive water contamination of the oil. You'll save your customers lots of engine trouble just by asking... "May I check the water in your oil?" And then tell them about Walker Oil Filter Cartridges.

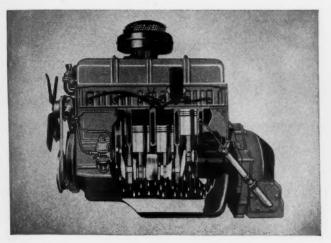




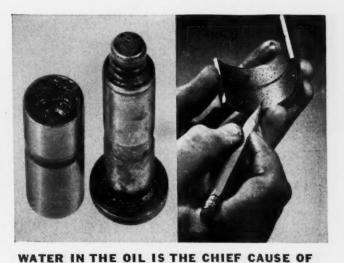
IT RAINS INSIDE YOUR ENGINE. Results of tests made by Motor Vehicle Research, Inc., in its \$3,000,000 automotive testing laboratory, proved that a gallon of water is produced for every gallon of gasoline burned in an internal combustion engine. (Book showing complete test available on request to Walker.)



NOT ALL OF THAT WATER PASSES OUT THE EXHAUST. Every car owner has seen water dripping from the tail pipe—water from moisture-laden exhaust fumes that condense in the muffler. That's further proof that every engine manufactures water. But... not all of the water passes out the exhaust.



SOME WATER ALWAYS 'BLOWS BY' THE PISTONS into the crankcase oil. Under average slow-speed, start-and-stop driving, water condenses on the cylinder walls and washes past—or blows by—the pistons into the crankcase to contaminate the oil.



SLUDGE AND SOURCE OF CORROSIVE ACID WEAR. Water is the most objectionable of all oil contaminants. It is the chief cause of sludge, the biggest source of engine operating troubles. And water is the source of corrosive acids which are a major cause of engine wear.

How a Walker Oil Filter Cartridge checks water in the oil

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Some models are equipped with choke modifiers. In this case, make the choke-modifier adjustment immediately after the pump-rod adjustment, because it, too, is based upon fully closed throttle valves.

It may be well to explain here that the center of a conventional automatic-choke, thermostatic coil spring is fastened securely to a stud in the center of the thermostatic coil cover. The tip of the outer coil is bent to connect with a tang on the choke-shaft arm. Thus, when the coil housing is rotated, the thermostatic spring coils will be wound up, and the pressure created will cause the choke arm to rotate and close the choke valve.

A specific spring-tension point is determined at the factory, and the mechanism is indexed at that point. From then on, choke-valve operation is dependent on the expansion and contraction of the bi-metallic thermostatic coil spring.

Models with the choke modifier operate in the same manner, with one exception: The center section of the thermostatic coil is secured to a shaft, which in turn is connected by a rod to the primarythrottle-shaft arm. The direction of rotation of both shafts is the same. Consequently, when the primary-throttle valves are opened, causing higher engine speeds during cold engine and warm-up periods, the linkage between the choke modifier and throttle-shaft arms will cause the choke-modifier arm to rotate a proportionate and predetermined number of degrees. As a result, tension on the thermostatic coil spring in the choke housing will be sufficiently relieved during the period to prevent overloading or excessively rich choking during cold-engine acceleration.

To adjust the choke modifier, loosen the small nut connecting the choke - coil - spring shaft to the

choke-modifier arm. This will permit the choke-coil shaft to be turned until the coil-shaft pointer can be set in the specified relationship to the index marker on the choke-coil housing. Make this adjustment immediately after the pump-rod adjustment, while the throttle valves are seated in the fully closed position.

The choke-rod adjustment, which follows, is important because it establishes a correct relationship between choke-valve position in the air horn and the fast-idle control of the engine throughout the warm-up period. The basis for this adjustment is the position of the fast-idle-adjustment screw on the fast-idle cam.

Turn the fast-idle screw until it rests on the second step of the fast-idle cam and against the riser of the first step. The first step is the highest step on the cam—the step with the longest nearly flat surface.

When the fast-idle screw is properly positioned, the choke valve (Continued on page 88)

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The three new "Bear" developments shown here help "Bear" Shops to get maximum profits and customer good-will from Super Comfort-Ride Conditioning!



should be in the setting specified. Make the measurement between the upper edge of the choke valve and the air-horn-divider fin. If the adjustment is incorrect, correct it by bending the choke rod.

Always make the unloader adjustment at wide-open throttle. Establish a tang relationship between the throttle-shaft arm and the fast-

idle cam so that, when the throttle valves are fully open, the pressure on the fast-idle cam and linkage will cause the choke valve to open enough to institute the de-choking action of the carburetor at wide-open throttle. This applies to coldengine operation.

Fast-idle adjustment is important because choke action and throttle opening are closely related during warm-up. The adjustment is based on establishing a specific distance between the edge of the throttle valve and the bore of the carburetor, when the fast-idle screw is resting on the highest step of the fast-idle cam.

To set this distance, insert the prescribed gauge between the primary-throttle valve and the bore of the carburetor on the side opposite the adjusting needles. Holding the throttle valves tightly against the gauge, turn the fastidle screw in until the gauge is free. Make this adjustment with the choke fully closed.

The function of the atmosphericvent valve is to relieve pressures from the carburetor under hot operating conditions at idle-throttle position, live or dead engine. The proper action of this vent or pressure-relief valve is highly important in hot weather and must be carefully adjusted. If pressures are not relieved under extreme heat conditions, hard starting, hot, and rough idle will result.

Place the correct gauge in the carburetor bore in the manner outlined for fast-idle adjustment. This is to establish engine speed through throttle position where the atmospheric vent will be most effective.

Then apply the bending tool to the tang on the pump-shaft arm, and bend the tang so that it contacts the valve and opens it at the time prescribed in the manufacturer's specifications.

Next is the secondary-throttlelockout adjustment, controlling the action of the secondary-throttle valves during warm-up. The Rochester 4-jet carburetor uses a choking system only on the primary side. If the secondary valves were to be open during the choking operation, the value of the choking system would be lost. Hence, a method of controlling the movement of the secondary-throttle valves has been developed: a cutaway area in the fast-idle cam that confines a tang on the secondarythrottle shaft within the bounds of the cutaway area.

The confining action continues from the cold start throughout the warm-up period, because the fast-

(Continued on page 90)

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idle cam is held in a predetermined position by the choke linkage until the engine is warm enough to operate satisfactorily without the aid of the choking system. When the choking action is completed, the fast-idle cam drops to a point where the cutaway area of the fast-idle cam clears the tang on the secondary-throttle shaft, and the

secondary-throttle shaft and valves are free to operate.

The specified distance between the cutaway area in the fast-idle cam and the secondary-throttleshaft tang must be maintained to prevent binding or "hang-up" during or after the warm-up period. Make this adjustment by bending the secondary-throttle lever in a horizontal direction.

The next to last bench step is the secondary-contour adjustment, so-called because the secondarythrottle-lever tang must travel freely around the contour of the outer edge of the fast-idle cam during warm-engine operation.

Be sure the adjustment meets specifications so that the tang will not rub, bind, or hinder the free travel of the secondary-throttle valves. Make the adjustment by bending the secondary-throttle-lever tang in a vertical direction.

Exercise care so that the relationship of the secondary-throttle-lever tang and the inner cutaway area of the fast-idle cam, as outlined in the previous step, is not disturbed.

The final step before the carburetor is installed on the engine is the throttle-stop-screw adjustment. This is important to prevent warm-engine stall while the mixture and engine-speed adjustments are being made on the car and during initial road tests.

Bench adjustments alone, no matter how perfectly done, are not enough with this type carburetor. Idle adjustment on the car is absolutely essential, and it cannot be done in a haphazard manner—particularly on cars with automatic transmissions.

Here are four checks which should be made prior to any carburetor adjustment on the car:

1. The engine must be properly tuned in accordance with the vehicle manufacturer's specifications. This is to include spark-plug-gap clearance, ignition timing, cam dwell, and proper valve-tappet clearance (if adjustable).

2. The manifold - heat - damper valve must be free and operating normally. Also, the cooling-system thermostat must be working correctly, as it is virtually impossible to get a good carburetor adjustment unless cylinder-jacket temperatures are maintained.

3. Any intake-manifold air leaks must be eliminated before the carburetor can be adjusted, as such a condition will admit unmetered air into the engine. It is also wise to check for minor air leaks which may exist at tubing connections for the windshield-wiper-vacuum

(Continued on page 94)



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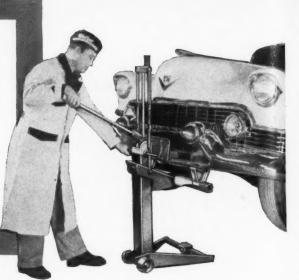
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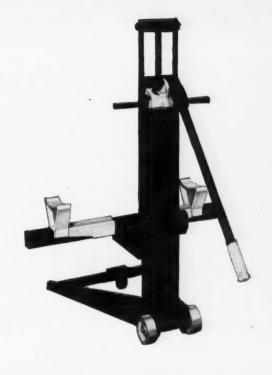
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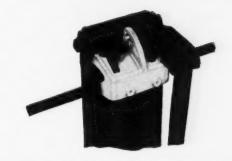


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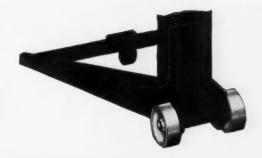


"FINGER TIP" CONTROL . . . Single control conveniently located on top of column disengages safety mechanism and releases hydraulic pressure for lowering.

PERMANENTLY ATTACHED "SWING-AWAY" HANDLE . . . The "Handy Boy's" handle is always ready to use—but never in the way. When not in use it swings down—out of the operating zone and may be locked in its "swing-away" position. Fitted with a comfortable plastic grip—the handle cannot get lost or laid aside.



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The unique V-Bar base design provides an unusual combination of stability and maneuverability. Three wheels carry the "Handy Boy." The forward wheel is a swivel type caster spring loaded so the jack rolls freely in any direction. The two rear wheels are malleable iron. Under load the forward wheel deflects to allow the full "V-BAR" base to contact the ground or pavement. The forward cross member prevents the "toe" of the base from "digging in" when used on dirt, gravel or soft pavements.



LEADS IN JACKS

1955

source, loose coil or mounting studs, etc.

4. Check the carburetor-to-manifold attaching stud nuts for adequate and even tightness. NOTE: Excessive tightening, even though the nuts are of equal torque, may result in a slight throttle body distortion, making it hard to get a stable adjustment.

After the above precautions have been taken, the immediate and foremost requirement is a thorough warm-up. The throttle body of the 4-jet carburetor is a larger casting than any used before, and it takes time to warm the manifold and carburetor base thoroughly. Consequently, do not try to make the idle adjustment

the minute the thermostatic coil has released choke action. Drive the car a short distance before attempting it.

The drive will reveal any change in the transmission linkage that may have taken place during removal and reinstallation of the carburetor.

Correct adjustment cannot be made without the use of an electric tachometer to keep a constant indication of engine idle speeds throughout the procedure. When the engine is thoroughly warmed, adjust the speed to the manufacturer's specification. For the purpose of discussion, let us assume that the specification calls for 400 rpm in drive range. The carburetor can best be adjusted in drive range because the car is used with the transmission in drive range most of the time.

Safety precautions must be taken during the adjustment sequence:

1. Be sure the parking brake is tight and firmly set during "on the car" adjustments, especially when the transmission is engaged in a drive range.

2. Place floor blocks ahead of and against the front wheels as an added safety measure.

After the engine has been thoroughly warmed and the speed set to the manufacturer's specifications, as mentioned above, the next step is mixture adjustment. For best results, follow this procedure:

Turn the left-hand idle-adjustment screw (the one nearest the steering wheel side) clockwise, and watch the tachometer until it reaches what is known as the "dropoff point lean." At this point, observe the slant of the idle-adjusting screw slot. Then turn the screw counter-clockwise until the tachometer reaches the "dropoff point rich." Note the new position of the screw slot, compute the travel, and return the screw half the distance.

Repeat this operation with the right-hand screw. In all probability the tachometer will now indicate a higher speed than before. If so, reduce the engine speed to specification by adjusting the throttle-stop screw, and repeat the mixture-adjustment procedure described above. This must be done (Continued on page 96)



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to compensate for the differential of air volume allowed to enter the manifold and carburetor—a change caused by the new position of the throttle valves.

The foregoing series of adjustments amounts to a process of "cut and trim" until the combined adjustments of the throttle-stop screw and the idle-adjustment screws make the mixture and engine speed conform to the manufacturer's specifications.

Listen for even firing of the engine, and watch for vibration, which will be readily seen by movement of the radio antenna. Go to the rear of the car to listen for even firing and engine rhythm as the exhaust gases leave the tail

pipe. A popping noise here indicates a slight leanness. If it is present, turn each idle-adjustment screw out (counterclockwise) slightly until the engine has reached a point of maximum smoothness.

Recheck the engine idle speed. At this point only a slight adjustment, if any, will be required. Carefully compensate, as described earlier, if a slight throttle-valve change is necessary.

During the adjustment procedure, and before each phase of it, place the transmission in neutral and accelerate the engine from inside the car to take slack out of the linkage mechanism between the accelerator pedal and the throttle-shaft arm on the carburetor. Do this from the driver's seat, because that is the way it will be done on the road. However, return the transmission to drive before continuing the carburetor adjustment.

Never let the car out of the shop without making this check, because linkage hang-up can cause the tachometer to show a faulty reading. The solid stop position of the carburetor's throttle-stop screw should always be the basis for accurate tachometer reading.

Much has been said in this article about manufacturer's specifications, correct tools and equipment, and adjustment bulletins. An inquiry to the service manager, Rochester Products Division, General Motors Corp., Rochester 3, N. Y., will bring by return mail information as to where these items may be procured.

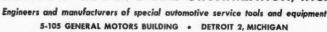


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G.M.'s V-8's

Continued from Page 42

arm and lifter seats. When axial movement has just been eliminated tighten the rocker arm ball nut one complete turn on Pontiac and 11/2 turns on Chevrolet. This will depress the plunger the proper amount within the lifter. Turn the crankshaft until the distributor rotor points to number eight. Proceed to adjust the rocker arm ball nuts on number eight exhaust valves and intake valves as outlined before. Continue the same procedure on the rest of the cylinders until all have been completed. Cement new gaskets to the push rod covers and the crankcase ventilator lower baffle. Install the push rod cover.

Cylinder heads are interchangeable and are identical except for the plug inserted in the end of the water passage in which the water distributing tube is located.

If lifters are removed for any reason they should be placed in order so that they may be returned to their original bosses from which they were removed. Valves, valve lifters, push rods, rocker arms, rocker arm balls, and rocker arm ball nuts should always be kept in sets and returned to their original positions. It is also important that the push rods be replaced with the same ends up. The upper ends can usually be identified by the polished surface which contacts the rocker arm.

To replace the intake manifold or gasket it is necessary to drain the cooling system. Then remove the air cleaner, top radiator hose and disconnect the heater hose.

(Continued on page 100)



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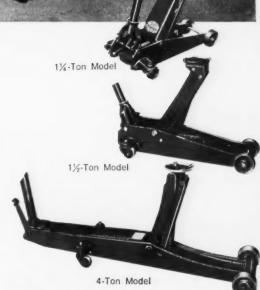
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From the light curb jack, to the heavy-duty 4-ton model, fully enclosed Ausco power units get the load up and down fast—give a long, trouble-free service life. Safety valves prevent overloading. Swivel rear wheels allow quick, sure positioning.



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HYDRAULIC SERVICE JACKS

AUTO SPECIALTIES MFG. CO., Dept. MA-2, St. Joseph, Mich. Other plants in Benton Harbor and Hartford, Michigan and Windsor, Ontario, Canada

On cars equipped with power steering disconnect the pump and lay pump with hoses attached on fender skirt. Disconnect gas and vacuum lines and right cylinder head spark plug wires. Remove the distributor cap and lay the cap and wires on the left side of the engine. Remove the manifold retaining screws and nuts and remove the manifold and gaskets. When installing new gaskets place the flange of metal section of the gasket into the crossover port.



to provide finest possible performance, long life, handling ease and operating simplicity. Fully enclosed Diamond chain drive. Enclosed Timken reel
bearings with automatic take-up. Patented, positive action, non-wearing
clutch. Extra strong, zinc die cast alloy frame. Zinc die cast alloy pinions with hardened steel
inserts. Patented "Quick-set" height adjustment with a range of ½" to 2¾". Briggs & Stratton
4-cycle engines (rope or recoil starters). Power driven weed topper and reverse belt for selfsharpening - optional equipment.



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MANUFACTURING CO.
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Replacing Rocker Arm Stud

Rocker arm studs are replaceable providing a press of two tons capacity or more is available. Remove the cylinder head from the engine. Remove the rocker arm and pull the stud out of the head. This can be done by installing spacers or washers under the nut to extract the stud. New studs come .003 in oversize. The hole must be reamed first and then the plugs should be removed from ends of oil galley to clean out any metal deposits. Position the rocker arm on the new rocker arm stud and place the installing tool on the stud in place of the rocker arm ball. Coat the stud with white lead and oil and, with the cylinder head mounted in position, press on the special tool to keep studs vertical. Position the new stud with the rocker arm stud installer over the hole in the head. Carefully press the stud into the head until it is in about halfway, 7/16 inch. Position the valve train gage in the push rod hole so that it seats properly in the rocker arm. With the valve seated, slowly press the rocker arm stud into the cylinder head until the gage projects about midway between the end of the gage and the step with respect to the gasket surface for the cylinder head.

Installing Distributor

Turn the crankshaft until firing position of number one cylinder and timing mark on harmonic balancer indexes with the pointer. Position the distributor to the block gasket on block. Install the distributor without the cap and wires so that the vacuum diaphram faces the right side of the engine and rotor arm points toward the contact in the cap for number one cylinder.

Gar Wood Denies GM Sale Rumor

E. F. Fisher, president of Gar Wood Industries, Inc., has stated that there was no basis for the rumors that the company would be acquired by the General Motors Corporation and that there had been no discussion of any such transaction.

ALL AMERICA APPLAUDS THE NEW 1955 DE SOTO



Public demand shatters all records

Greatest Announcement gets exciting results

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1955

De Soto dealers in every state of the Union have enjoyed the biggest, most exciting Announcement in their history. Public demand for the 1955 De Soto is shattering every record in our books. Never has any new car been given such a resounding vote of approval by the American public.

Yes, folks everywhere have fallen in love with the new, Forward Look style of the '55 De Soto. But more important still, THEY'RE SAYING IT WITH ORDERS!

Everybody is saying . . .

DESOTO

Smartest of the Smart Cars

Just another reason why it pays to be a DeSoto-Plymouth dealer!

Pan American Continued from Page 63

grind which carried them over 10,000-foot mountains, through deep forests, across burning deserts and wind-torn plains.

The race started in Tuxtla Gutierrez near the Guatemalan border and continued northward over eight legs in five days to finish on the outskirts of Ciudad Juarez only ten miles from the Rio Grande river and the bordertown of El Paso. Texas.

Winners in the 1954 race were Umberto Maglioli, Italy (Ferrari), Heavy Sports; Hans Herrmann, Germany (Porsche), Light Sports; Ray Crawford, El Monte, Calif., (Lincoln), Heavy stock; Tommy Drisdale, El Paso, Tex., (Dodge), Light Stock; and Consalvo Sanesi, Italy (Alfa Romeo), European Stock.

Twenty machines of unlimited piston displacement comprised the heavy sports car class. There were nine Italian Ferraris, two English Austin-Healeys, two English Jaguars, two U.S. Kurtis-Krafts (one with a modified Lincoln engine and the other with a supercharged Nash engine), one special aluminum bodied French sedan with a hopped-up Packard engine, one Chevrolet Corvette, one \$29,000 Spanish Pegaso, one hodge-podge Mexican coupe with a Mercury engine, and one Oldsmobile powered California hotrod.

In the light sports category, seven German Porsches, three Italian Oscas, two German Borgwards and one special car with an MG powerplant made up the 13car field. Engine displacement in this class was limited to 1,500 cc. (91.5 cubic inches).

The Standard Series, or Heavy, Stock category started 29 cars, including 14 Lincolns, nine Buicks, two Cadillacs, two Packards, one Chrysler and one Oldsmobile

The largest group to take part in the race started in the Special Series, or light, Stock class. Only five brands were represented: 33 Fords (one a six-cylinder), 19 Chevrolets, 11 Dodges, five Studebakers, and one Hudson Wasp.

A new class for cars of European manufacture with engines not larger than 2,000 cc. (122 cubic inches) drew 19 competitors. Italian Alfa Romeos dominated this division with 11 identical, tiny sedans. Representing Germany were seven Volkswagens and one Borgward.

Italy's speed-loving Umberto Maglioli, in a 298.9 cubic inch V-12 Italian Ferrari, swept home the winner in the heavy sports class, setting a new overall race record of 107.93 miles per hour. This broke the year-old record set by Juan Manuel Fangio in a V-6 Italian Lancia.

Almost 25 minutes behind came California's Phil Hill and Richie Ginther in an "Americanized" Ferrari. Hill's car was originally a 4.1 (250 cubic inches) model,

(Continued on page 104)





"Know what's best for these new cars? Quaker State Super Blend!"

Every day more motorists are asking for the one all-weather oil with Quaker State endurance—that famous Quaker State quality all motorists like. Quaker State Super Blend is made especially for today's high compression, high-powered engines.

Yes, horsepower is up—up—UP! Compression ratios are up—up—UP! Today's engines boast 7.5-1, 8.5-1, even 9-1—and that means greater demands than ever on motor oils. Quaker State Super Blend is an SAE 10W-30 HD Oil, super-refined from

100% Pure Pennsylvania Grade Crude Oil, then blended and fortified with the finest additives known. In every test—in the laboratory and on the highway—Super Blend proves superior, longest lasting!

No other all-weather motor oil has a finer name or a greater future. It's backed by the biggest advertising campaign for a new product in Quaker State history. You can recommend and sell Quaker State Super Blend to your customers with confidence, pride, and profit!



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Pan American

Continued from Page 102

but by lengthening the stroke he upped the displacement to 4.5 litres (274.5 cubic inches).

Lincolns again swept the heavy stock division despite the loss of four of the company's vaunted seven-car team. Crawford, a wealthy supermarket operator, calculatingly drove his '54 model to the winners line first by the scant margin of one minute and 48 seconds over his teammate, Walt Faulkner of Indianapolis fame.

Two Cadillacs, which showed well on the long straightaways marking the last two days running, finished third and fourth.

Lincoln, which had come to the starting line with a crew of ex-

perts, spare parts and cars extensive racing plans and charts and even a mobile kitchen, was dealt a stinging blow during the early days of the race.

The cars were tuned and carbureted for a wide range of altitudes, starting with Tuxla's 1000 feet, dropping to the high-speed straits of Tehuantepec at 328 feet, then climbing to Totolapa at 6,560 feet before dropping to the mile-high city of Oaxaca. An unseasonal shower was blamed for the burning of pistons in some 15 cars, including two Lincolns. A third Lincoln team car went off the road and crashed.

Two German Porsches provided the closest battle of the race finishing in the two top places less than a minute apart in the light sports class. Young Herrmann averaged 97.62 miles per hour in his tiny car and lopped nearly four hours off the old record to post a time faster than all other cars in the race with the exception of the top two Ferraris.

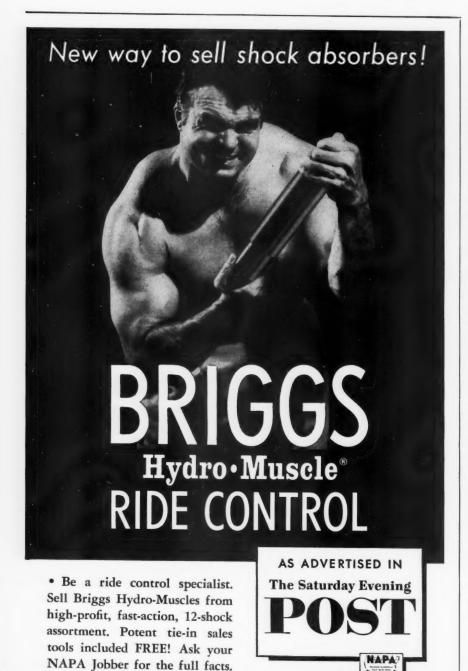
The low-slung rear-engined Porsche had four cylinder air cooled powerplants under their trunk lids. Their chief opposition, two Borgwards, enjoyed the front running until accidents eliminated them.

The new Dodge V-8s had a field day in the light stock class. They played second fiddle to Ford V8s in the mountains, but on the payoff straightaways they rolled in for record times. They finished 1-2-3-4, with Drisdale leading the parade in the record time of 22:35.53 for an average speed of 84.42 miles per hour. Only 46 of the 69 starters finished in this class, including 20 Fords, 14 Chevrolets, eight Dodges, three Studebakers and one Hudson.

The European stock class was Alfa all the way with the Italians taking the top five positions and the Borgward coming in ahead of the Volkswagens.

The two sports classes had no restrictions on service, but all cars had to run on pump Mexican gasoline.

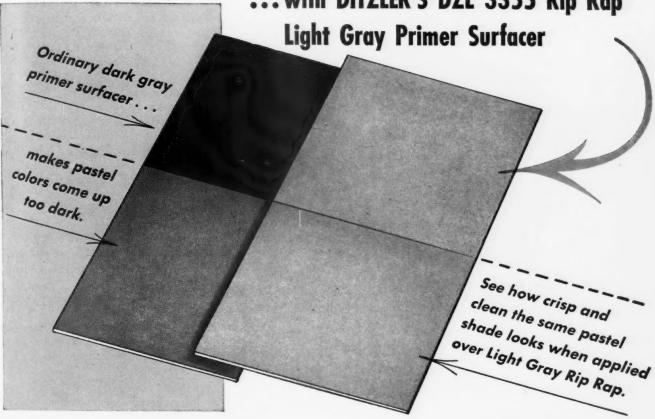
Lincoln's tire changing and service work along the route smacked of Indianapolis and the (Continued on page 106)



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Saves Time and Money... Makes Paint Jobs Look Better

- With more pastel colors being used on today's motorcars, Ditzler's new Light Gray Rip Rap—DZL 3355—is fast becoming a necessity in every paint shop. This new primer surfacer gives you more accurate matches—brings out the true color of these subtle modern hues.
- This new Light Gray Rip Rap is a well-balanced formulation that meets every painting requirement. Its high solid content gives you more film-forming materials—fewer coats are necessary. Rip Rap feathers out without splitting or chipping at the edges. Its very fine pigments require less sanding for a smooth surface. With this Rip Rap you also get excellent holdout that improves appearance of both lacquer and enamel colors. You save labor and materials—your customers get better-looking jobs.



Ditzler Color Division, Pittsburgh Plate Glass Company, Detroit 4, Michigan.



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Pan American .

Continued from Page 104

European Grands Prix. Lifts, worked by compressed gas, were installed midway in each leg. Wheels, color-keyed to different team cars, were left propped up in strategic positions at each corner of the lift. Signs were posted which side of the "two bay" service area certain cars were to use,

Service on the cars in all but the two sports classes was limited to one hour periods after each day's run (two hours in Mexico City) and to the 30 minute layover periods between legs on the three multiple-leg days. Pilots needing additional time to work were forced to stop along the road and risk being knocked out by the clock.

A complete change of wheels and brakes, lubrication, tuning and replacement of a leaky radiator, along with the filling of both fuel tanks on one car, was accomplished in 44 minutes at one stop by Bill Stroppe's adept Lincoln crew.

For the most part brakes went out long before the finish of each leg on the hot cars. Thrills were a thousand a minute as the drivers in their brakeless vehicles tossed the 5000 pound heavy stocks sideways after crossing the finish lines, using their tires as brakes in order to stop.

Tragedy again marked the race, which is viewed by millions each year. There were seven fatalities, equalling last year's record number.

An Argentine driver and his copilot were killed in a pre-race accident. An El Paso fan was killed on the course when his Jaguar

(Continued on page 108)



88-page catalog on this big

NEW! Write for free



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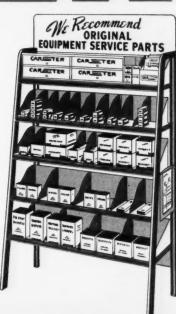
PARTS SHELF ASSORTMENT

NO. \$152

With this Carter Parts Shelf Assortment you're set to service popular Carter Carbureters on car models ranging from 1939 through 1954.

The shelf itself is handsome and rugged. The four-drawer metal cabinet features individual corrugated containers with imprinted part numbers. Gasket assortment holder designed for quick reference with ample space for additional assortments.

Get the complete \$152 story from your nearest Carter Supplier—call him today!



CARTER CARBURETOR CORPORATION, St. Louis 7, Missouri
Division of ACF INDUSTRIES, INCORPORATED



More People Buy



because they DO THE JOB!



ALL PERFECT WEIGHTS WILL FIT RIMS MOUNTED WITH TUBELESS TIRES AS WELL AS RIMS MOUNTED WITH REGULAR TIRES AND TUBES

PERFECT Wheel Weights are designed RIGHT and made RIGHT. They fit ALL rims mounted with tubeless tires. They're made to do the kind of α job that lasts and means satisfaction. That's why MORE PEOPLE RIDE ON PERFECT WHEEL WEIGHTS THAN ANY OTHER KIND. PERFECTS are precision manufactured to fit any car and GUARANTEED to be within 1/32 of an ounce correct. Get the weight that lives up to its name—PERFECT.



Fits all passenger cars made before 1949 which had either E or F type rims. Still gives satisfaction on most cars "(Not recommended for late model Fords and Mercurys. Use "C" Type for these cars.) manufactured up to present time. Sizes: ½-1-1½-2-2½-3-3½-4-4½-5-5½-6-ounce.

Made for all late model Cadillacs equipped with large chrome hub caps covering the entire wheel. Made in the following sizes: $\frac{1}{2}$ 1 $-1\frac{1}{2}$ - 2 - $2\frac{1}{2}$ 3-ounce.

PERFECT EQUIPMENT CORP. 804 W. Morgan St. KOKOMO, IND. P.O. Box 706

Manufacturers of Wheel Weights for Trucks and Passenger Cars

Pan American

Continued from Page 106

overturned the night before the race started.

During the race itself two copilots, Ford Robinson of Los Angeles and a Mexican, were killed—Robinson when his open cockpit Ferrari overturned, the other when his Chevrolet crashed.

Two spectators died when a car left the road and struck them on the third day of the race.

The Pan-American spectacle is scheduled so that the cars arrive in Mexico City on the biggest holiday of the year, the anniversary of the Revolution. This combination resulted in official estimates of 1,000,000 people lining the 80 mile stretch from Pueblo to the capital city and another million or more in the vicinity of the finish line in the city limits.

Confirmation of the claim to the title of the world's toughest auto race and the most strenuous vehicle proving ground was the fact that only 85 of the 150 contestants reached the finish.



"— You ain't got a thing to worry about, slug . . . he can't hurt us."



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itia PAY CHECK stepper-upper! Stran-Go

MECHANICS STANDARD SERVICE SET

Every minute you lose hunting for the right tool...
each time you're compelled to "make-do" with a misfit
... whittles away at your earning power! Here's a
set that backs up your own skill and know-how with the
fastest, finest tools a man can own. The Standard
Service Set was planned by Snap-on to help mechanics
make more money! Every one of the 166 tools in the
set is a basic in handling service operations most
frequently met. The big, six-drawer chest keeps them
safe, and right at your finger tips as needed.
Check over the list—then check your own tool kit!



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TALK IT OVER with your Snap-on Man—it's easy to plan a steady replacement of misfits with Snap-on money-makers! For big free catalog of 4000 Snap-on tools, ask your Snap-on Man, or write

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THE CHOICE OF BETTER MECHANICS

New 4-point promotion



set to boost volume

for Hollingshead Dealers Coast-to-Coast!

2

Rugged, versatile Hollingshead display stand-costs you nothing in the long run!

The new Hollingshead Service Center stand ties dealers in directly with national advertising. 56,400,000 consumer ads will tell America's motorists that this stand "identifies service stations best equipped to take care of your car." With your name on top, it's advertising at its best—a constant reminder to customers of your good service.

And—look at all these features: Personalized with your name on top.

Giant rubber tire 8 in. wheels

Open on both sides with sign and price strips on each side.

Rugged steel construction—chrome-plated.

Easy-grip steel tube handle—in convenient position.



3

1955

Famous products motorists know, want and buy!

Here are the 13 popular items featured for spring:

MOTOR RYTHM MOTOR RYTHM LUBRICATOR RUSTOP KLEAR-FLO KLEEN-FLUSH FORMULA III

VENUS POLISH
INSTANT SEALER
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...AND A BIG EXTRA PLUS-

4

ANOTHER FABULOUS PREMIUM OFFER FROM

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Genuine imported German Genomat Sport Binoculars with coated lenses provide 16 times area magnification. They can be yours for only \$1.00 with the new Hollingshead 4-point Profit Program. It's an amazing value with features found only in binoculars selling for \$12.95 and more.

Enjoy all your sports more with these far-seeing "Genomat" binoculars. One look through these powerful glasses will show you why you'll get more enjoyment from your hunting or fishing trips . . . at boxing matches and baseball games and many other activities.

And remember—you can use this great premium as an extra incentive for your helpers.

Ask your Hollingshead Jobber for all the details on the powerful new Hollingshead 4-Point Profit Program. Find out how you can get the imported German binoculars for only \$1.00, or how you can cash in on

MAIL TODAY!

R. M. Hollingshead Corporation, 844 Cooper St., Camden, N. J.

Tell me how I can participate in Hollingshead's great spring program. I am interested in () Service Center, () Binoculars, () Both.

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Organization

thing properly done.

3. Provide, through the manual, clear explanations of the principles of sound organization which are to be applied in running your business.

No matter how perfectly your plan has been developed, you, as top executive, and every member of your organization, must have the fullest intention of making it work or your perfect operation may be doomed to failure. Two prime essentials of a climate in which an organization plan can work are the wise selection of key personnel and thorough indoctrination of all employees in basic principles.

Here are some examples of situations which may defeat the best of organizational blue-prints unless we make sure a correct attitude is cultivated:

- 1. The old-time employee who, regardless of his correct status, has previously issued instructions to anybody and everybody, must accept established lines of authority and follow them.
- 2. The man in a supervisory capacity who may previously have been more concerned about being a "nice guy" than with getting work done must recognize that he has a responsibility for producing results. (A competent supervisor can retain the friendship of those reporting to him and still get things done.)
- 3. The faithful old employee in some minor capacity, who may never have consulted anybody but the top man of the business about anything, must accept the fact that he has an immediate superior who is the proper person to whom to go with problems and complaints.

During the transition period from a previously loose and informal operation to one in which correct ways of doing things are specified, it isn't necessary for anyone to suddenly become an automaton or a stuffed shirt. Old habits are not easily changed and installation of an organization plan doesn't mean that immediately and forever everyone must forget he is a human being possessing, we hope, a sense of humor. Without deviating basically from the organization principles established, the top man can still listen pleasantly to "Old Timer's" harangue until repeatedly referring the old timer to his correct superior brings him to understand that things have changed. The man who has formerly exercised author-

Continued from Page 56

ity all over the business may be slow in losing that habit but, unless he never accepted the new operating method to start with, can be gently "kidded" into conformity as time goes on.

So the first step in putting an organization plan to work is to wisely select personnel for key positions. A necessarily attendant process is to be sure each fully understands and accepts the prin-

(Continued on page 114)



ence can do a real workmanlike job with Mid-States Simplified Welding. Mid-States welders provide automatic arc starting, instant amperage changes, and 100% penetration. Virtually adjust themselves to the job! Instant starting speeds up production

and eliminates burn-through when welding light metals. 100% penetration assures a stronger, smoother weld that requires only a minimum of cleaning and grinding.

There are no moving parts to wear out, adjust, and maintain—a Mid-States Welder will continue to provide top performance year after year with only a minimum of attention. In addition, the Mid-States Welder can be used for brazing, soldering, hard-surfacing and heating.

YOUR PRESENT WELDER CAN DO INERT GAS SHIELDED WELDING . . .

Mid-States Model 310, 7-300 amps.

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JUST ADD THE MID-STATES "MISSING LINK" AUTOMATIC ARC STABILIZER...

Add the Model 13-D "Missing Link" and you've got the benefits of inert gas shielded arc welding at sensationally low-cost. Model 13-D is easily attached to any A.C. or D.C. welder of 0-300 amps. Model 23 is for A.C. or D.C. welders of 0-600 amps. This compact unit includes a high frequency generating circuit and solenoid valves to control flow of inert gas and water. The entire unit is controlled through a finger tipswitch mounted on the welding torch.



WRITE TODAY for complete information on Heavy Duty Mid-States Welder and the Model 13-D "Missing Link" for inert gas shielded welding.



Organization

• Continued from Page 113

ciples of good organization, with special emphasis on these twin requirements:

- 1. That every person placed in a responsible position is ready to accept fully the responsibilities placed upon him.
- 2. That everyone accept the fact that henceforth, lines of authority are to be observed, regardless of

previous customs or habits.

The naming of major and subdepartment heads tend to be largely automatic. If the General Manager has previously handled all finance problems and supervised purchasing he will probably continue to do so as Finance Officer and Procurement Manager, in addition to performing his General

Manager duties. The same man may also previously have served as top sales executive and will continue to do so as Distribution Manager under the new set-up. Or he may choose to divest himself of such duties and name a logical person from the sales staff to serve in that capacity.

Similarly, throughout the organization, little more may be involved than making formal and specific assignments which were previously recognized in a loose sort of way. The former top man in the Service Department is likely to be a good choice for the enlarged duties of Operations Manager. Whoever has been running the Parts Department is likely to be qualified for formal designation as Parts Department Manager.

Let's not, however, overlook the possible need for changes. Maybe the present Shop Foreman is not the best man on whom to place full authority. A present mechanic, perhaps a comparatively new man in the organization, may more definitely have what it takes to dependably discharge responsibilities. If such a change ought to be made, installation of an organization plan is a perfect time at which to make it. Resulting problems from such a change might just as well be faced now as some other time

When general decisions have been made as to who might best be placed in the top spot of each major department, it's a good idea to hold a preliminary huddle with each such person. Explain the responsibility he will have and the authority he will be delegated. Make sure he is ready to accept

With major department heads named, the next step is that of selecting key people for sub-departments the business requires. Since each key person must have final "hiring and firing" authority over those reporting to him, we observe this principle right from the beginning.

Key people at all levels having been selected, the next step is to make sure everybody understands the entire plan-lines of reporting and the extent and limitations of responsibility and authority. That

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(Continued on page 116)

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1955

TOLEDO STEEL presents a new shock absorber for modern driving comfort!

WITH BIG NEW
SELLING ADVANTAGES
FOR YOU...

new design features

SKY-RIDE

Airplane of Type

SHOCK ABSORBERS

Here's the news you've been waiting for! It's the news about SKY-RIDE...Toledo Steel's all-new shock absorber line. SKY-RIDE Shocks are now available as part of the famous Toledo Steel engine and chassis parts line... the line preferred by experienced repairmen for over 48 years.

New, patented features make SKY-RIDE the ideal shock for modern driving. What's more, these same features give you selling advantages that no other line can offer. Ask your Toledo Steel Jobber . . . he'll explain how you can capitalize on the exclusive features of the new SKY-RIDE line. Call him today, or write, phone or wire Toledo Steel Products Co., 6402 Cedar Ave., Cleveland 3, Ohio.

new sales and profit features



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DIVISION OF THOMPSON PRODUCTS, INC.



aim will be accomplished partly through the preliminary interviews before naming of the key personnel. This should be supplemented by a session with all employees, explaining the Organization Chart and manual, and fully answering questions which arise in the course of explanations. An excellent setting for this is at a dinner meet-

ing which gives installation of the new program its due appearance of importance. This is also a good time for the final distribution of manuals.

These, then, are the steps toward putting your organization plan to work, subject to such adjustment as special circumstances of your business dictate: 1. Select major department heads after individual conferences at which preliminary judgment of who is best fitted for each post is double-checked.

2. Guide major department heads in selecting people for key positions within their departments.

3. Hold a formal indoctrination meeting at which to introduce key personnel as selected and to make clear to all employees all aspects of the new operating plan.

4. Place due stress on your own personal intention of making the plan work and make clear that all in the organization are expected to have the same attitude. Lines of authority are to be followed; responsibilities are to be fully accepted and faithfully discharged; sound principles of business operation, as presented in your manual, are to be applied in every way.

Just as it is generally recognized that "the best government is the least government," good business management is chiefly characterized by the absence of conspicuous "management." The executive who spends long hours constantly giving orders related to the performance of minor tasks is likely to wind up with a heart attack instead of profits. Necessary overall guidance of the business is sure to suffer. An effective General Manager is primarily a good manager of people. Those people take care of the details of operation.

That has been the sole aim of these discussions—to foster development of an organization in which those employed to do the detail work do it and the man employed as General Manager truly manages. With your enterprise so organized, you have the best possible assurance that results—in terms of the profits which are the sole motive for establishing a business—will be forthcoming.

A mother was writing to a son, congratulating him on his engagement:
"My sweet boy, what great news! Your father and I rejoice in your happiness. It has been our only wish that you should marry some good woman, heaven's most precious gift to man. She brings out the best in him and helps him to suppress evil."

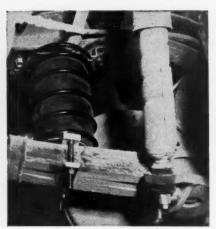
Then there was a postscript in a different handwriting: "Your mother has gone for a stamp. Keep single, you young fool."

HOW TO MAKE A

DOLLAR A MINUTE



Front AIR LIFTS slip inside any coil springs not loaded with shock absorbers and inflate like a tire to support spring action.



Rear AIR LIFTS fit in coil springs or come equipped with own coil and fit between leaf spring and frames.

Sell and install AIR LIFT pneumatic spring boosters



One experienced man can install a set of front or rear end AIR LIFT units in less than ten minutes. The ready profit from the sale, plus labor charge, will add up to a dollar a minute and then some!

AIR LIFTS are so easy to sell because they are low cost answers to a number of motoring problems. Front AIR LIFTS correct sagging — cushion spring action against swaying on turns, dipping on stops. Rear AIR LIFTS handle overloads up to 1000 pounds for towing trailers, hauling heavy materials.

AIR LIFTS are fast, clean sellers — factory guaranteed to please — and backed by an aggressive promotion program. For prices and full details on this new item see your jobber or write Department 102.

AIR LIFT COMPANY, LANSING, MICHIGAN



FRAM Filter Service Tool Rack

Fits anywhere in your station...helps appearance...inspires customer confidence that leads to sales!

The sensational new Fram Oil Change and Filter Service Tool Rack is the modern way to keep all the tools you need for fast, efficient servicing of oil filters, cartridges and oil changes! Every tool is handy to reach . . . every oil and cartridge change will be easier than ever! Here are the details . . . Made of tough, perforated Masonite, this terrific rack is attractively painted to simulate a cartridge. It's 16" x 24" in

size. A suggested tool layout is printed right on the rack. Supplied complete with mounting screws, spacers, hooks and stabilizers, you can mount it on your lube room wall in a minute. Then...see how quickly you win your customer's confidence! The professional appearance of your FRAM Filter Service Tool Rack proves you're the man who can give expert oil filter service—it pays off in more filter profits!

2 ways to get your FRAM FILTER SERVICE TOOL RACK!

Rack complete with necessary fixtures to mount and hang tools (tools not included)

for only \$100 with 24 cartridges

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2 Combination of Tool Rack and Fram Sludge Syphon

for only \$150 with 24 cartridges

Order yours from your FRAM Distributor today!

(Tools supplied by dealer)

OIL - AIR - FUEL - WATER
FILTERS

FRAM CORPORATION, Providence 16, R. I. Fram Canada Ltd., Stratford, Ont.

WHY "KEEP 'EM ROLLING"



EVERY AUTOMOTIVE DEALER AND SHOP BENEFITS from Farm Journal's continuing editorial program aimed at better, more frequent maintenance. Farm Journal is the largest selling—and most influential—farm magazine in America. When it urges its readers to do something about their 6,000,000 motor vehicles in a "Keep 'Em Rolling" editorial feature, it gets results.

MEANS MORE BUSINESS FOR YOU

A GREAT SALES OPPORTUNITY



Would you like the Spring "rush" to start now, while you can take care of it—and profit from it? Do as hundreds of

other car dealers and shops the country over are doing. Tie in with Farm Journal's pre-Spring "Keep 'Em Rolling" feature. It tells your best customers what to do about their cars, trucks and tractors now. This feature appears in the March issue of Farm Journal, which starts reaching nearly 3,000,000 of the country's best automotive customers February 19. Let your customers and prospects know you're cooperating with "Keep 'Em Rolling," and that

cooperating with "Keep 'Em Rolling," and that you're handling Farm Journal-advertised products. You can do this by post card, by radio, by small-space classified advertising, or by using one of the promotional programs your suppliers make available.

Send today for an up-to-the-minute list of automotive products advertised in the March issue of Farm Journal, for your free copies of the magazine, for free display banners. Write Dealer Service Department, Farm Journal, Inc., Philadelphia 5, Pa.



Farm Journal

America's largest, most successful farm magazine

WASHINGTON SQUARE, PHILA. 5, PA.
GRAHAM PATTERSON, PUBLISHER
RICHARD J. BABCOCK, PRESIDENT



WHY MORE BUSINESS. Nearly half the cars in America—and proportionately more cars per family—belong to rural people. In addition, they own a third of the trucks and practically all the tractors in the nation. No wonder the majority of the nation's car dealers and independent repair shops get half their business from rural and out-of-town customers—the very people that Farm Journal sells so convincingly.



WHY MORE BUSINESS FOR YOU. So successful has Farm Journal become in meeting the needs and interests of farm families that they have made it the largest selling publication in this field. In fact, it is so large that it gives advertisers coverage in the better rural areas like a local newspaper, thus giving you the local sales support you want.

Management Clinic . . Continued from Page 64

Berg, a pint-sized edition of Arthur Godfrey and winner of a series of shows, is often seen giving out with a variety of tunes with which he hopes eventually to conquer audiences from coast to coast

Garry has Godfrey's slow moving, delayed reactions and has caught his mannerisms. Most of the contestants chose more romantic types as their models, but Garry's looks and personality have made him a natural for a second

Showrooms have lent themselves to almost unlimited possibilities in exhibiting unusual amateur shows. Outstanding among them was the eleven-year-old baton twirler who presented her act standing atop her pony. All was well in the show room, but the young lady was disqualified because it was found impossible to get the pony in the passenger elevator of the office building which houses the television studios.

Not only does the show sell cars and give talented youngsters the important start on the bottom rung of the ladder up, the show often presents the audience with the heart-tugging evidence of human courage and fortitude.

Physical handicaps do not keep hopeful youngsters from appearing at auditions and often they win places on the show. Adele Perkins, crippled by infantile paralysis, sang from a wheel chair. Her song not only delighted the audience but resulted in raising considerable money for the polio drive. Another youngster gave evidence that polio-crippled hands can bring music from an electric guitar.

Has the show ever produced a new Eddie Fisher or a Frank Sinatra?

"Not yet," says Marsh. "But even with a lift at the bottom of the climb up, competition makes it hard going for the amateurs. Some day we'll see the real success of several of our performers. I'm sure of that."

Perhaps no one on the whole show has as much fun as Marsh himself. A natural born salesman and promoter, no amateur puts as much salesmanship into a performance as Marsh does into his commercials.

A native of Tennessee, Marsh came to Michigan in 1936 and has been in some form of automobile business ever since. When he took over the Gil Schaefer distributor-(Continued on page 122)

The auto salesman was in gay spirits as the porter brushed his coat. He asked the porter the amount of his

average tip.
"Mah average tip, Boss?" grinned
the porter, "Ah should say dat 'bout
one dollah, suh, is mah average."

The salesman reached into his pocket

and took out a dollar.
"Thank you, Boss!" said the elated porter as he fondled the bill. "Thank you indeedy, suh. An' ah will add dat yo' is de fust pussen what has come up to de average!"

CHECK THERMOSTATS to build sales!

• Checking thermostats pays off in extra sales. Check 'em whenever you have engine tune-up jobs, overhauls, radiator repairs or "change-overs" to summer motor oil and lubrication. A replacement Bridgeport thermostat is the ideal tie-in sale-improves car performance - increases your profit.

BRIDGEPORT Thermostat

builds your profits!

For sealed or open cooling systems Bridgeport thermostats meet the needs of any car-or any car manufacturer's thermostat choice. They duplicate any original equipment thermostat. Rugged, dependable, easily and profitably installed. Attractive display carton contains assortment of most wanted models. Call your jobber or write Dept. JCM, Robertshaw-Fulton Controls Company, Bridgeport Thermostat Division, Bridgeport 1, Connecticut.



BRIDGEPORT AUTOMOBILE THERMOSTATS

Ch

We put our CARS on the table-

FIVE ACES!

Ever see an advertisement that said so much in so very few words?

A single glance tells you that General Motors leads the style parade in every price class.

And it includes the schedule for the GM Motorama of 1955. It's a greater show than ever this year—will make GM cars the "buy" word from coast to coast.

This ad is one of a series of sparkling and power-packed messages appearing in national magazines, mostly in four colors.

It's a campaign designed to bring folks to your showroom sold on the idea that the key to greater value is the key to a General Motors car.



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Pens

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GENERAL MOTORS leads the way

with the High Fashion Five for Fifty-Five

GM Motorama of 1955: New York, Jan. 20-25; Miami, Feb. 5-13; Los Angeles, Mar. 5-13; San Francisco, Mar. 26-Apr. 3; Boston, Apr. 23 to May 1

Management Clinic . . Continued from Page 120

ship of Hudson Motors in 1951 the dealers were selling four new cars and sixteen used cars a month.

Like many another man discouraged about the showing of his business, he talked over his problems with his wife, a business woman herself. It was Norma Marsh who came up with the suggestion of an amateur television

show as an advertising stunt.

How do you start a television show?

The problem was solved when Marsh looked around for a master of ceremonies. He found one in the person of genial Bill Roh. At this time Roh was running an amateur radio show for the Loyal Order of Moose, raising money for a local tuberculosis sanitarium. Marsh picked up the whole show, Bill, kids and all. The first "Talent Quest" was on the road.

After the first show, Hudson show rooms and used car lots were crowded with people from 7:30 p. m. until 2:30 a. m. It was estimated by telephone officials that 60,000 calls hit the circuit following the show. It was then that the telephone company requested that votes for winning contestants be cast by post card rather than by telephone calls.

From the beginning the show was a success. It met with instant response from the small town Hudson dealers, for it brought people to the show rooms for application blanks. It was a subject for conversation. Crowds poured in on evenings when the tryout



Piston Failures are Expensive . . . In Loss of Profit and Loss of Good Will

Many piston failures have been traced to incorrect Pin Fits which do not allow cam-ground pistons to expand properly, resulting in scored pistons.

Whether you fit your own pins or send the work out, we can help you eliminate practically all comebacks from piston scuffing and scoring.

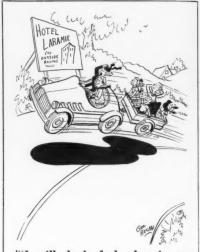
Our 24-page booklet "Just What Is A Pin Fit" gives the complete story, with many illustrations of actual piston failures and their causes.

Endorsed by piston, ring and car manufacturers—200,000 requests already filled—why not drop us a card for your own free copy.

See our exhibit at the Regional Shows in:
LOS ANGELES • SAN ANTONIO • ATLANTA
NEW YORK • DETROIT 843







"I still don't feel, that in our case, A sports car is very practical."

auditions were held. The entire town watched when "one of our kids is on the show!" Business increased more than 118 per cent immediately following the first performance.

Piling up the growing stack of application blanks, Marsh again emphasized his faith and pleasure in his television show. "It's like eating your cake and having it too—for we have great satisfaction in seeing some really talented youngster or group of youngsters getting those important first breaks. And at the same time, more and more people see, admire and drive away in new Hudson cars. It's a great deal!"

Chilton's MOTOR AGE, FEBRUARY, 1955



GREASE RETAINERS, CORK GASKETS,

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v, 1955

FITZ-RITE TREATED FIBER GASKETS

FOR OIL, GASOLINE

AND WATER CONNECTIONS.

COMPLETE SETS FOR MOTOR REBUILDERS



In 1906 there were more than 75 makes of American cars; today about 20 . . . only 7 of which were being made when the first Fitzgerald Gasket was produced. Perhaps as many as 2,000 makes have come and gone in the intervening years . . . while Fitzgerald Gaskets have steadily kept pace with automotive progress . . . recognized throughout the world for their rugged dependability in today's high compression engines. Since 1935, we're proud to say, our gaskets have been sold abroad exclusively by the world's largest manufacturer of automobiles.

THE FITZGERALD MANUFACTURING CO.

TORRINGTON, CONNECTICUT

BRANCHES AND WAREHOUSES LOS ANGELES, CALIF.; CHICAGO, ILL. CANADIAN FITZGERALD LTD., TORONTO, CANADA

MOMIXEE

reduces servicing time up to 50% You can speed and improve service on 75% of all jobs when you use a Globe "Frame-Kontact" Hoist.

Standing erect and working freely without obstruction, mechanics reach *all* underside parts faster, easier than any other way. Needed tools are quickly obtained and there is no wasted effort spent crawling to and from the job.

Job conditions are cleaner, better. And mechanics work at

maximum efficiency for low-cost results.
With a Globe "Frame-Kontact" Hoist at every mechanic's

station, volume goes up, profits go up.
Users report "133% increase in parts sales"...."75% increase in repair orders"...."89% more lube jobs."



Get complete data from your local Globe distributor. Or write to us. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Pa.



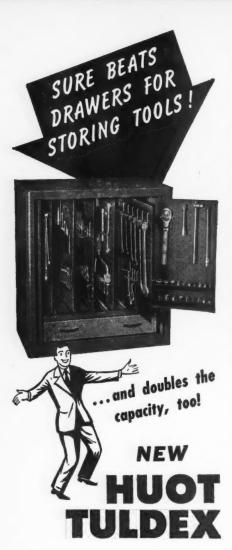
THE BEST LIFT





"FRAME-KONTACT" HOISTS SINGLE POST TWO POST

FREE WHEEL TYPE AUTO HOISTS



The TULDEX is an entirely new idea for protecting and locating tools. It was designed particularly for the master mechanic who appreciates and wants the best of care and protection for his equipment. Saves those many hours that are lost hunting for a misplaced tool.

Six tool holding panels, 12" x 20", are made of tempered, perforated hardboard and move on separate tracks with geared, self-lubricating nylon bearings. Doors swing completely out of the way when open. Panels and doors together have more than 24 square feet of tool storage area—twice as much as most tool chests! Top and bottom locks are built-in.

The cabinet of heavy steel is finished in attractive blue and grey baked enamel and is grease proof. The big drawer is just right for power tools or bulky items. You can place the Tuldex on a bench, hang it on a wall or mount it on top of a portable Huot Porta-Cab. Overall size: 29" x 26" x 133%".

Ask your jobber, or write for bulletin.

Made by America's leading manufacturer of "Modern tool storage systems for modern tools."



585 No. Wheeler St., St. Paul 4, Minn.

Horsepower . . .

Continued from Page 45

the list of engines considered heretofore the table has been expanded in scope of characteristics as well. To meet the design trend we have added a column on torque and one on bore/stroke ratio.

1955 also marks a major swing to 12-volt electrical systems. All cars in the GM family have 12-volt equipment, a mighty sweet song for the Delco-Remy division as well as for the lamp makers. Among independents, Packard and models of American Motors using V-8's also have joined the fold. For the first time since the introduction of 12-volt systems, the equipment builders will be able to enjoy the fruits of mass production with its incident effect upon manufacturing and distribution costs.

While on the subject of high horsepower ratings, it is only fair to note that many of these ratings are given at engine speeds far beyond the normal operating range on the highway. They can be approached only in gear, can be usable only for extremely high acceleration rates.

With the advertising value of horsepower placed so highly, it is well to observe the concern of engineers prominent in this picture. Advertised ratings are hardly comparable under present conditions and will remain "paper" values until everyone adopts a uniform formula for what it is that constitutes a "bare" engine and until there is a uniform engine test code.

In the past two seasons, including 1955, we know of three engines whose maximum ratings have been upped by a considerable margin without the benefit of any engineering changes in the product or its accessories. It was done simply by changing the method of rating—using a less conservative test code. Consequently, an engine used the year before carries a higher output rating next season.

From a design standpoint the new crop of V-8's has many distinguishing characteristics. One common yardstick is extremely

(Continued on page 140)



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Interlocking principle prevents slipping under any load.
 New type wide base lugs cannot shear.
 New nose design for gripping small objects.
 Patented design of tension edge eliminates stress concentration at channels.
 Interlocking design minimizes stress on joint bolt.
 Precision machined interlocking surfaces result in perfect fit, distributing pressure evenly.
 "Rite Angle" teeth guarantee maximum bite and minimum wear.

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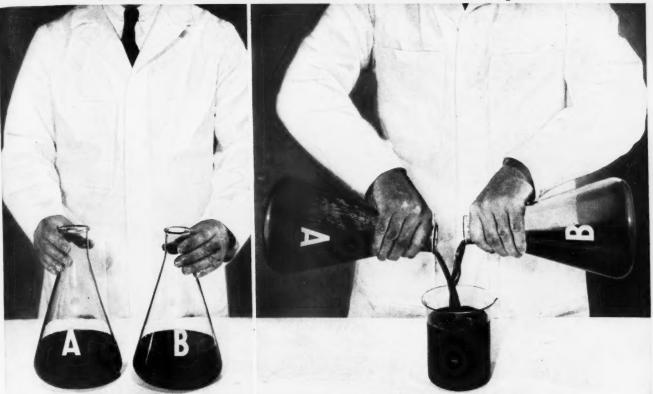
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Look for the Channellock line when you're shopping for hand tools. Channellock pliers offer features that you can't get with other makes. And when you buy a Channellock plier, ask to see the full line—you'll find a style and model to do any job better.



CHAMPION DOARMENT TOOL CO. . MEADVILLE, PA.

One of a series: How Du Pont builds sales for you.



Du Pont gives you a product advantage you can see for yourself

Naturally, your customers don't want a cooling system clogged with rust. And that won't happen when you winterize their cars with a Du Pont anti-freeze.

The demonstration above shows why. Flask "A" contains anti-freeze with an oil inhibitor. Flask "B" contains Du Pont anti-freeze with an exclusive *chemical* inhibitor. Some rust particles have been added to each solution. The difference? When flasks are emptied, notice how oily film in "A" causes rust to stick to the sides (just as it would gum up a cooling system). But see how Du Pont anti-freeze formulated with a *chemical* inhibitor holds particles in

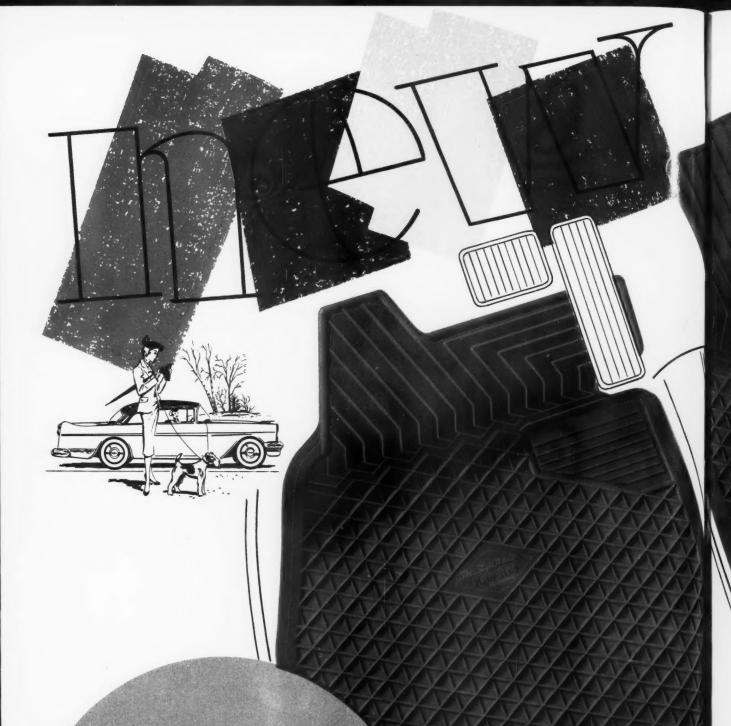
suspension, so they empty out with solution, leaving "B" clean.

This is an advantage you can tell your customers about . . . one they can understand.

And it's one more reason why Du Pont "Zerone" and "Zerex" mean better business for you. Bigger business through advantages like these:

- ▶ Nation-wide Du Pont Anti-Freeze Week promotion
- Newspaper, magazine ads, billboards, in your own town
- ▶ Weekly Football Forecasts, the biggest TV show in the field
- ▶ Backing by famous motor experts
- ▶ Enforcement of Fair-Trade prices—no employee sales





THE

Style master KAR-RUGS

by Rubbermaid.

Contour Designed

for complete floor protection of all cars

Rich Colors

beautiful for every car interior

Always Stay Put

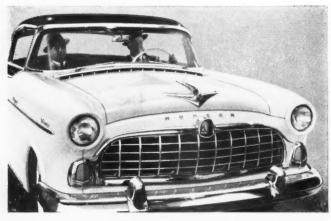
special design prevents mats from sliding





The most beautiful performers of them all!

SHOWN ABOVE—NEW 1955 HUDSON HORNET HOLLYWOOD hardtop with a choice of either new V-8 or Championship Six engine.



NEW 1955 HUDSON WASP—smartest new low-medium-priced car. New inside and out, with luxury far beyond the low price.



NEW RAMBLER—AMERICA'S LOWEST PRICED FAMILY CAR—in sedans, hardtops, and station wagons—a new kind of car to meet new driving needs.



HUDSON MOTORS DIVISION
of American Motors Corporation
DETROIT 32, MICHIGAN

See "Disneyland," great new all-family show, ABC-TV network.

Check TV listings for time and station.

American Motors puts all this, and more, to work for Hudson dealers...

new high style, new power, double safety, three times smoother ride, lowest cost air conditioning, lowest car prices, too!

New Hornet V-8, and Championship Six—a choice of two great engines for a fabulous car, now more glamorous than ever.

Twice as Strong and safe—exclusive Double Strength Single Unit Body keeps Hudson like new longer, ups trade-in value.

Three Times Smoother Ride—exclusive long coil springs have three times ordinary cushioning power. Splaymounted for anti-sway safety.

Airliner Reclining Seats—exclusive comfort feature, in combination with Twin Travel Beds—new way of life on wheels.

Lowest Cost Air Conditioning—All-Season Air Conditioning requires only one temperature control, takes up no trunk space, requires no separate heater.

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most profitable for you. Concentrate in the recognized leaders. The Journal, largest of the women's books . . . Life, mightiest of the mass weeklies . . . Time, No. 1 in the newsweekly field . . . Farm Journal, first with rural readers . . . and TRUE, America's largest selling man's magazine! If you have a product for men, it belongs in TRUE. Guarantee 1,750,000 ABC . . . A Fawcett Publication, New York, Detroit, Chicago, San Francisco, Los Angeles.

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"Agatha, there goes that

Mr. Plumly into the First National again.

I'm not one to be nosey but that's the third



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time today. Certainly must be making money

hand over fist. Some people have all the





don't they?"

MORAL: Some people have luck, and some-like Mr. Plumly-are just smart enough to build profits with Brand Names. By carefully selecting brand names you'll sell faster and easier, with more profit, and go to the bank oftenerto put money in!

AND IT'S YOURS FOR FREE!



Send for the new brochure that shows you how others benefit from the pro-motion of Brand Names . . . tells you how you may qualify as a Brand Name Retailer-of-the-Year. Write for your copy today.

Brand Names Foundation

37 W. 57 ST., NEW YORK 19, N.Y. A Non-Profit Educational Foundation

Every car is a prospect for a pair of new G-E *All-Weather* Headlamps





Revolutionary General Electric Headlamp helps drivers see through fog, rain, snow

The greatest advance in night-driving safety since the first sealed beam headlamp, the new G-E All-Weather Headlamp makes every car, new and old, an immediate prospect for a pair of new headlamps. It helps drivers see through fog, rain, snow. It gives 25% more light. It lights up to 80 feet farther ahead on the right side of the road.

Reduces kick-back glare

The photos above, taken in identical conditions, show the difference. With regular headlamps, stray light from the low-beam filament shines upward and hits the fog, rain or snow, creating a kick-back glare that obscures a driver's

vision. But G-E *All-Whather* Headlamps have a built-in shield that blocks off this uncontrolled upward light. Reflected glare is greatly reduced.

Lights up to 80 feet farther on clear nights too

5 extra watts have been added to each beam, give about 25% more light. A new design reflector and lens help the G-E All-Whathee Headlamp light up to 80 feet farther ahead on the right hand side of the road.

General Electric advertising features the new headlamp on the Jane Froman TV show and in national magazines. Don't be caught short. Order plenty now!

NEW-DESIGN LENS bends light down. NEW FILAMENT SHIELD blocks off uncontrolled upward light. NEW-DESIGN FILAMENT gives 25% more light in 6-volt lamp. NEW-DESIGN REFLECTOR is tilted to throw light down.

Order your supply NOW!

Lamp No.	Voltage	List Price	Case Quantity 8	
5040	6	\$1.80		
5400	12	\$1.90	8	

A combination pack of six 6-volt and two 12-volt lamps is also available.

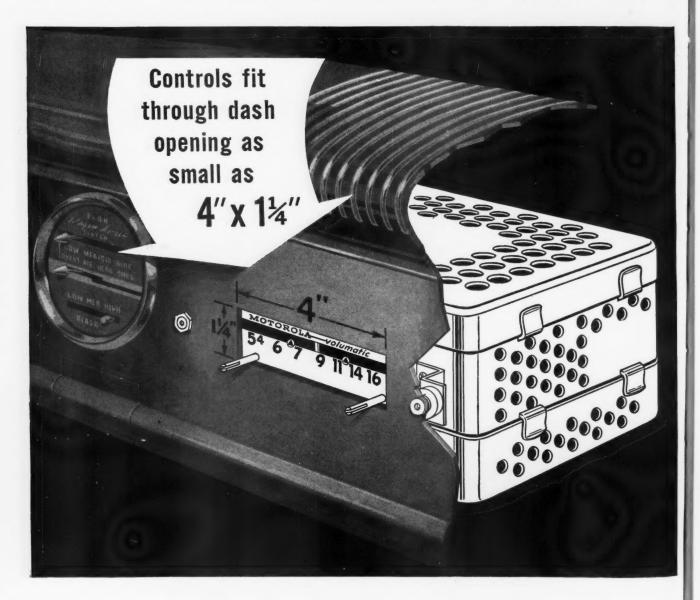
Progress Is Our Most Important Product





ELECTRIC

A car radio so be installed in



Motorola 5M

\$4995

1-piece universal unit • Volumatic (no fade-out) automatic volume control tone control • 6 tubes, including rectifier • 6 x 9 in-dash extended tone speaker • 6 or 12 volt electric system • Custom installation for virtually all models

Chi

simple it can 20 minutes Another first from Motorola!

Never again will you have to pass up car radio profits because of complicated installations. You can make a custom installation of this revolutionary new car radio in less than 20 minutes.

No holes to drill, no complicated wiring or separate tuning and power units. Dial and control shafts fit through dashboard dial openings as small as 4" x 1\4". Simple one-piece universal unit fits virtually every car.

Profitable? You bet. There's profit in the \$49.95 price—and extra profit in the new simplified installation.

And here's the rest of the new easy-to-install line that's shorter than ever and loaded with features!

Volumatic automatic volume control. • External speaker jack • 6 or 12-volt electric system

6 tubes, including rectifier



Model 395

1955

\$3995

Self-contained, including speaker. Under dash or in-dash installation. Stepped-up power.



Model 555

\$5495 Push-button control. Self-contained, including speaker. Under dash or in-dash installation.



Model 595

\$5995 Same as Model 555 with in-

Model 555 with indash 6 x 9 speaker, and smaller case.



Model CTM5

\$4995 Simplified Chevrolet custom installation. Tone control. 6 x 9 in-dash speaker.

Model CTA5

\$6995 Simplified Chevrolet custom

fied Chevrolet custom installation. Push-button control. 6 x 9 indash speaker.

New rear seat speaker kit \$995

Better see your

Motorola

Orola Car Radio distributor

WORLD'S LARGEST EXCLUSIVE ELECTRONICS MANUFACTURER



Here are 10 reasons
why many profit-minded
dealers signed up with
Dodge Truck last year!

Here are some of the reasons why many profit-minded automotive and farm implement dealers added Dodge trucks to their line, or supplanted another make of trucks with Dodge. Read these reasons, then write Dodge Truck, 21500 Mound Rd., Detroit 31, Mich., or phone JEfferson 6-6200, Detroit, for further information on why you can make more money with Dodge trucks.

World's best trucks

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1. Most salable trucks on the market. New 145-hp. Power-Dome V-8's make Dodge pick-ups, panels, and low-tonnage stakes the world's most powerful.

2. You can meet 98% of hauling needs with ½- through 4-ton Dodge trucks, each "Job-Rated" for the work it is to do.

Priced with the lowest, always noted for their high quality, Dodge trucks put you in a strong competitive position.
 Truck-only field force, made up of specialists in truck

sales, will help train your men, work with you in retail selling.

5. 1,000,000 Dodge trucks in use form a vast replace-

1,000,000 Dodge trucks in use form a vast replacement market for Dodge truck dealers to draw upon.

6. A name truck buyers trust. Since 1914, Dodge trucks have

had an unequalled reputation for dependability.

Retail sales aids, sales training. A complete selection of sales promotional and sales training materials to help you sell trucks.
 Modern plant and facilities. An assurance of consistent quality, low costs and prompt filling of new-truck orders.

9. Chrysler Corporation engineering, noted for its many firsts . . . Safety-Rim wheels, Cyclebond brake linings, downdraft carburetor, Oriflow shock absorbers, etc. . . . and now, Power-Dome V-8 engines.

10. Assured service business . . . with most truck owners sold on preventive maintenance, and with scores of Dodge trucks in your community you have a ready-made service business.

DODGE "Job-Rated" TRUCKS

A PRODUCT OF CHRYSLER CORPORATION



"GET A HORSE!" THEY HOOTED, AND YOU DID- 200 OF 'EM!

THE HOOTS came from village wisecrackers, poking fun at turn-of-the-century car owners.

The Ford then had the power of 4 horses, Cadillac $6\frac{1}{2}$. Today's Ford has 162 horsepower. Today's Cadillac and the new Chrysler, 250.

Every year you have added more horses to your mechanized stable. The recent year has seen one of the most sensational rises in horsepower in automotive history. Where will it end? Is there a limit to the number of horses your stable can hold?

Predicting a limit to automotive horsepower is like saying that man will never fly above a certain altitude, nor submerge below a certain depth. There is no foreseeable limit to a car's horsepower.

As you know, rising horsepower and higher compression ratios demand new and different gasolenes and oils.

Neither oil men nor automobile men dare limit themselves to presentday automobile designs. They *must* think and work in the future.

For example:

raft

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The new Cities Service 5-D gasolene and 5-D motor oil stem from years of research and planning for the higher requirements of 1954 and 1955 cars. Their success is proved by customer demand—the sharpest upward rise in sales in Cities Service history.

Even more powerful fuels and more efficient lubricants are now being developed in Cities Service laboratories—so powerful and efficient no refinery today can produce them.

To make these fuels and lubes of the future a reality, Cities Service is investing 35 million dollars in the installation of brand new, radically advanced equipment, now nearing completion in its refineries. This puts Cities Service at least two years ahead in ability to provide new gasolenes and motor oils for cars of next year, and the next year, and the next year.

CITIES SERVICE

A Growth Company

Here's how your horsepower is going up —a single year's record*

MAKE AND MODEL H	HORSEPOWER		COMPRESSION RATIO	
	1954	1955	1954	1955
Buick V8-40	143	188	7.2	7.5 (Stand. 8.4 (Dyna.)
Buick V8-60	195	236	8.0	8.4 (Stand. 9.0 (Dyna.)
Buick V8-50	177	236	8.0	8.4 (Stand 9.0 (Dyna.)
Buick V8-70	200	236	8.5	9.0
Cadillac V8	230	250	8.25	9.0
Chevrolet 6-1500	115	123 (Stand	1.) 7.5	7.5
	125	136 (Pow.		
Chevrolet 6-2100	115	123 (Stand		7.5
	125	136 (Pow.		
Chevrolet 6-2400	115 125	123 (Stand 136 (Pow.		7.5
Chrysler Windsor				
(went from 6 to 8)	119	188	7.0	8.0
Chrysler New Yorker	235	250	7.5	8.5
Imperial V8	235		7.5	8.5
Crown Imperial	235	250	7.5	8.5
DeSoto S-20 Power Maste	r			
(went from 6 to 8)	116		7.0	7.5
DeSoto S-19 Firedome			7.5	7.5
Dodge Coronet 6	110		7.25	
Dodge Coronet 8	150	175	7.5	7.6
Dodge Royal	150		7.5	7.6
Ford 6	115		7.2	7.5
Ford V8	130		7.2	7.6
Lincoln	205		8.0	8.5
Mercury	161	188	7.5	7.6
Nash Rambler 100" w.b. (Nash-Hudson in 1955)		-	7.25	7.3
Oldsmobile 88	170		8.25	
Oldsmobile Super 88	185		8.25	
Oldsmobile 98	185		8.25	
Plymouth Plaza 6	100		7.1	7.4
" Savoy & Belvedere	100	117	7.25	7.4
Pontiac Star Chief (went from 6 to 8)	127	180	7.7	8.0
Studebaker Champion 6	85		7.5	7.5
Studebaker Commander V	8 127	140	7.5	7.5
Willys Lark	75	115	6.9	7.3

* Compiled by "Motor Age



Ch

Oil-savr rings MANATIZED **

U. S. Patent No's. 2,140,710 and 2,323 815

AND CHROME CLAD!

NOW! Install 'um as a

INGLE UNIT

The three segments of the Wausau MONOTIZED Oil-savr ring are bonded together with a special adhesive that dissolves during the first engine run, permitting the segments to separate and form a perfect contact with cylinder walls. This patented Oil-savr feature — exclusive with walls. This patented Oil-savr feature — exclusive with walls was a means easier, speedier installation — installation without error. In addition — all Wausau MONO-tion without error in addition — all was a without error and the all was a without error a

DROP'UM IN! NO THREAD'UM!

1

NO SLIP'UM!

WAUSAU

WAUSAU MOTOR PARTS COMPANY
Wausau, Wisconsin



Chilton's MOTOR AGE, FEBRUARY, 1955

short stroke, all designers aiming for minimum friction. As a result the bore/stroke ratio is uniformly over-square. In fact, only the Chrysler Windsor is square; the rest range from a minimum of 1.05 to 1, to 1.26 to 1 in the case of the Studebaker Commander which has a stroke of but 2-13/16 in. This

has resulted in uncommon compactness of structure, greater lightness, and improved mechanical efficiency as well as durability.

Moreover, designers have striven for individuality insofar as practicable. Consider combustion chamber design. Chrysler initiated and is continuing the distinctive hemispherical chamber design on its larger engines. This stemmed from the adoption of twin rocker arm shafts for each bank. For 1955, however, Chrysler Corp. has some new engines—Plymouth for one—with only a single rocker arm shaft, producing a greatly modified form of combustion chamber.

Buick has achieved distinctiveness through the disposition of valves in the vertical plane. This form of layout reduces engine width, thereby increasing compactness, permits development of a unique combustion chamber, claimed to have still greater turbulence

Packard has set its sights in another direction. Anticipating the need for larger displacement during the life of engine tooling, the block has been made deliberately longer to provide for greater spacing of cylinder bores. Thus Packard can effect large increases in displacement over the intervening years without scrapping basic pattern equipment or tooling, without penalizing the larger bore engine with respect to water jacketing.

Compression ratios are inching upward year by year, several General Motors engines being stepped up to 9 to 1. A large group of engines, as indicated in the tabulation are rated at 8.5 to 1. Despite this, a large percentage of engines have compression ratio of 7.6 to 1, the lowest this year being 7.5 to 1. Most designers anticipate an upward trend in compression ratio due to the cooperation of the petroleum industry in improving fuel quality and boosting octane ratings step by step.

Another significant design detail is the swing on the part of a number of manufacturers. Ford Motor Co. being notable among these, to the elimination of the conventional replaceable valve guide. Instead, the valve stem operates within a hole bored directly in the parent metal of the head. Obviously, this increases thermal conductivity enormously. It is claimed that valve temperatures are reduced as much as 200F at the head of exhaust valves. This feature has an important bearing on thermal efficiency, as well as in reducing the duty on the cooling system.



JOHNSON BRONZE CO., 455 S. Mill Street, New Castle, Pa.

Chi

YES, WE HAVE MORE BONANZAS!

Purolator's latest and greatest—NOW!

In 1953 and 1954, Purolator Bonanzas helped dealers make oil filter sales history!

NOW—February, 1955—comes Purolator's New Bonanza—a sure-fire record-breaker!

Here's the Deal:

- 1. Dealers buy Bonanza assortment of 26 fastest selling, most profitable Purolator refills.
- 2. Dealers add \$1.90 for beautiful, nationally advertised TROY ROBE complete with waterproof zipper case.

They pay regular prices

VALUE: 3 to 4 times price

Purolators and Robe packed in same carton

TOTAL COST \$31.49

(For filters and robe)

YOUR PROFIT

(Plus oil changes)

BUT THAT'S ONLY THE BEGINNING! Purolator's New Bonanza '55 ties in with PUROLATOR'S ANNUAL NATIONAL FILTER CHECK TIME—the most concentrated and successful selling drive ever presented to help dealers sell more.

Stock up - Now. Get your Purolator Bonanza.

Be Safe. See that you have Purolators on hand to sell every car that calls during the next 60 days.

Get in touch with your supplier NOW!

PurOlator

America's No. 1 Oil Filter

PUROLATOR PRODUCTS INC., RAHWAY, NEW JERSEY AND TORONTO, ONTARIO, CANADA

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 Available individually boxed or as a complete set T4-58 in metal case



No worry about hard use, even abuse. Accuracy is not dependent on delicate dials, gears and levers. When you sight-read Williams patented time-proved converging scale . . . you can depend upon what you see.

Precision machined of heat-treated, selected alloy steels to give years of service. Chrome plated finish, calibrated areas buffed. Ask for folder A-460.

For a superior reversible ratchet model, ask your jobber for Williams S-57. Both sight and sound readings in one.



Independents . . .

Continued from Page 47

elected Executive Director. Mr. James, a sincere, forward-thinking man who spent most of his business life as a garage owner, began thinking of a national organization over two years ago. He talked so much about it around his home that his wife Edria, a Tulsa school teacher, suggested that he get out and do something about it.

Bert Cook, Sr., I. G. O. of America's first president, is a highly respected man in his community of Dallas, Tex. As a Cadillac-Oldsmobile specialist he is sold on the "personalized service" opportunities an independent can offer his customer. He believes in strengthening the independent distribution system in the automotive industry. He opposes co-ops and group buying and operates with a firm hand and considerable wisdom.

Stanley R. Hesson, Stanley's

Garage, Oklahoma City, and president of the Independent Automotive Repairmen's Assn. of that city, headed a group which hosted the visiting delegates. The automotive jobbers of Oklahoma City provided a dinner which climaxed the meeting. One jobber spokesman cited the delegates for taking "one of the most forward steps that has ever been taken in our industry."

Byron W. Albright, Albright Automotive Service, Dallas, Tex., chairmaned the Constitution and By-Laws committee and performed a masterful task in drawing up and proposing the organization's rules, which are now under study by many state and local groups. Subject to ratification, the following is the Constitution of the I. G. O. of America, Inc.:

Article I-Name

This organization shall be known as the Independent Garage Owners of America, Inc. It shall be incorporated under the laws of the State of Oklahoma as a non-profit corporation.

(Continued on page 144)



PUMP ROD SETTING PUMP ROD ADJUSTMENT CHOKE MODIFIER SETTING

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Y, 1955

COLLEGE OF CARBURETOR KNOWLEDGE!



There's a full course in carburetor know-how for you at a GM Training Center!

Rapid advances in carburetor design have made up-to-date training a "must" for carburetor service specialists! To meet this need, factory-trained technicians are now conducting carburetor training courses in General Motors Training Centers across the nation! Classes include instruction by experts, technical films in color, supervised shop experience! You are eligible to attend, so don't miss this great opportunity. Remember—the more you learn, the more you'll earn! Write the United Motors Service Distributor in your area for further information—today!

ROCHESTER PRODUCTS, DIVISION OF GENERAL MOTORS CORP., ROCHESTER, N.Y.



Article II—Purpose

The purposes for which this organization is formed are and shall be:

1. To form a nation-wide group representative of the business and professional interests of Independent Automotive Repair Garages; to unite its members in the closest bonds of good fellowship and to promote closer business, educational and social unity.

2. To foster and protect the business interests of the members of this

association, by all honorable and law-

ful means.

3. To secure, on a national basis, freedom from unjust and unlawful extractions from competition and to correct abuses within the automotive industry resulting from unfair trade practices.

4. To encourage the application of the highest ethical standards in the business of the members of this association, and to promote favorable publicity and advertising to the end that a more harmonious relationship may be established with the motoring

public.

5. To aid in the dissemination of knowledge of improved automotive repair methods, among all members of this association and to serve as a medium for the exchange of valuable business information and practices among the members.

6. To improve the standards of

automotive repair, throughout the en-

tire country.

7. To promote safety on the high-ways and in automotive repair garages through cooperation with all law en-forcement bodies and through the ap-plication of the highest repair standards, to the end that only safe vehicles will be used on the highways.

8. To promote legislation favorable

to the best interest of the automotive industry and to the motoring public in general, in both state and national

legislative bodies.

9. To assist in any area, the organization of a unit (either local or state) which will in turn, become a part of this association.

Article III—Membership

It is provided that membership in this association shall be composed of 1. Organized state associations. 2. Unit members-at-large. 3. Individual members-at-large. 4. Affiliated members. 5. Allied members. 6. Honorary members.

Such memberships shall be defined and classified under terms and conditions to be prescribed in the By-Laws.

The Board of Directors shall reserve the right to determine the eligibility and status of any applicant (either individual or group) for membership in the National Association.

Article IV—Finances

Financial support of this organization shall be as provided in the by-laws hereinafter provided for; pro-vided further that dues to this association may be established on any basis set forth in the by-laws subject only to the will of the majority of the members of this association.

Article V—Meetings

Annual meetings of this association shall be held at such place and at such time as shall be provided in the by-laws. Provided that regional or statewide meetings may be provided for. Special meetings may be called by the Board of Directors at their discretion to be held at such time and in such place as a clear majority of the director shall order. Notice of such special meetings shall be given in the manner as provided for in the by-laws. It is further ordered that fifty-one per cent of the states holding memberships in this association be present at any regular or special meeting of the association, to constitute a quorum for the transaction of business.

It is further provided that when it is impractical or impossible to call a special meeting of the Board of Directors, that a vote by mail may be authorized by the president or vicepresident of the Association.

In this event, the question on which the vote shall be taken, shall be mailed by registered letter to each member of the Board of Directors, and thirty

(Continued on page 149)



IN TOUR TRANSPORT	
Cam	

Petroleum Solvents Corp. JOBBER'S NAME_

Petroleum Solvents Corp., 331 Madison A	ve., New York 17, N. Y. \$9.48 plus \$1.25 for Oil Rifle) Total \$10.73
please check or 2 gal. cans (\$7.80 plus \$1.25 for Oil Our check for \$	Rifle) Total \$9.05 please check
NAMEIS enclose	
ADDRESS	
CITY	STATE

Announcing a completely new line of Willard

Profit-Building Battery-Charging Equipment!

6-12 volt Wheel Models

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, 1955



Model WDT-200: Has new-type Electro-Thermostatic control that assures SAFE, fast charging at 100 amps. on 6-volt batteries, 50 amps. on 12-volt batteries. Individual cell comparison tester, rubber-tired wheels, weather-proof construction.

Model WD-150: Thermaster is identical to WDT-200 except tester is not provided. Both units slow charge three 12-volt batteries or six 6-volt batteries.



6-12 volt Portables



Model WP-100:
Thermaster is
easy to take to the
car, has same
capacity as WDT200.Electro-Thermostatic control.

Model WP-75: Timemaster fast charges at 75 amps. on 6-volt batteries, 50 amps. on 12-volt batteries. Electric timer control.





ModelWU-40: Utility Charger chargesat 40 amps. on 6-volt batteries, 25 amps. on 12-volt batteries. Indicator meter shows correct operation.

Utility Booster Chargers *



4 Models: Dry disc rectifier type. Start charging at approximately 4 amperes on 6-volt batteries, 2 amperes on 12-volt batteries. Gradual tapering as battery becomes charged.

Model WJ6-12 charges a 12-volt battery at 6 amps. or a 6-volt battery at 12 amps. Will charge two 6-volt batteries at once. Ideal for farms, homes, fleet accounts or auxiliary use.



*Willard Engineered and Built in Our

Equipment Division.

*Completely Guaranteed for One Full Year.

Call your nearby Now,

WILLARD STORAGE BATTERY COMPANY

Factories in: ALLENTOWN • ATLANTA • AURORA • CLEVELAND • DALLAS • DENVER • FAIRFIELD • KANSAS CITY • LOS ANGELES • MEMPHIS • MINNEAPOLIS • OMAHA • PORTLAND • WARSAW • TORONTO • CALGARY



SEE YOUR JOBBER on the complete line of Job-Designed Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.







From Hollywood to Manhattan — Demanded by Fine Car, Bus and Heavy Transportation Owners. Get the BEST for a Few Cents More. Cut Costs — Prevent Accidents — Save Lives! Dealer inquiries are invited. Write or wire.

LASCO BRAKE PRODUCTS CORP. MANDHIS J. TRINING. CALIF.

Calendar of Coming Events

Dealers Conventions

Feb. 28-Mar. 1—Louisiana Automobile Dealers Association Annual Convention and Exhibit, International Room, Hotel Roosevelt, New Orleans, La,

Sept. 16—Nebraska New Car Dealers Association, Paxton Hotel, Omaha.

Sept. 16-17—New Mexico Automotive Dealers Assn., Nickson Hotel, Roswell, N. M.

Sept. 18-20—32nd Annual Convention, New York State Automobile Dealers, Inc., Saranac Inn, Saranac, N. Y.

Sept. 19—Minnesota Automobile Dealers Association, Radisson Hotel, Minneapolis.

Oct. 16-18—National Used Car Dealers Association, Hotel William Penn, Pittsburgh, Pa.

Nov. 13-14—20th Annual Convention, Auto Dealers Assn. of Alabama, Tutwiler Hotel, Birmingham, Ala.

Automobile Shows

Feb. 13-20—San Francisco Auto Show, San Francisco Civic Auditorium, San Francisco, Cal.

Feb. 16-21 — Cleveland Automobile Show, Public Auditorium, Cleveland. Ohio.

Feb. 20-27 — Syracuse Auto Show, Syracuse, N. Y.

Feb. 24-27 — Sioux City Automobile Show, Sioux City Municipal Auditorium, Sioux City, Iowa.

Feb. 26-March 5—Kansas City Motor Car Show, Exhibition Hall, Municipal Auditorium, Kansas City, Missouri.

March — Lewiston Automobile Show, Lewiston Armory, Lewiston, Maine. March — Spokane Automobile Show, Spokane Coliseum, Spokane, Washington.

March 4-6—3rd Annual Kansas Automobile Show, Hutchinson Sports Arena, Hutchinson, Kansas.

March 16-20—Winnebago County Automobile Show, Army, Rockford, Illinois.

March 29-Apr. 3 — Sacramento Auto Show, Civic Auditorium, Sacramento, Calif.

Apr. 20-23—Danville Auto Show, Danville, Virginia.

General

Mar. 16-18 — 11th Annual Canadian Automotive Service Show, Automotive Bldg., C. N. E. Grounds, Toronto, Canada.

Stock Engine Class To Replace Stock Car

American Automobile Associaciation Contest Board headquarters has announced plans for a new racing division to replace the old "Stock Car" category.

A committee has been appointed to draw up rules and specifications for the new stock engine class racing division, which will use late model cars with stock engines. But with greater modification permitted to the chassis and running gear of the automobiles. In the future, cars running in the Stock Engine class will not be restricted to stock status, except for the engine, and will not run as stock cars.

The new racing division is being created to meet the demand of the public for stock-type racing events, while at the same time increasing the safety of those participating in these events. Increased competition and an increase in the number of events sanctioned is expected with the removal of the stringent regulations necessitated by the old strictly stock classification.





Buy Bonds

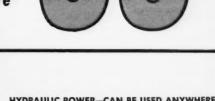
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Over 40,000 in use! HEIN-WERNER

Twin Saddle
HYDRAULIC
SERVICE JACK

grips bumper and lifts entire end of vehicle



Here's the most remarkable development in hydraulic jacks since the "O'BOY"... It's the sensational Hein-Werner "55" Twin Saddle Service Jack. Its timesaving features are sure to boost your efficiency and profits on a wide range of service jobs. HYDRAULIC POWER—CAN BE USED ANYWHERE. No need for air lines . . . Ideal for wash rack, shop, driveway, or curb service.

CONTACT AND UP IN LESS THAN A MINUTE. The "55" rolls easily to the job on malleable iron wheels. Spring suspended positioning roller on front end speeds spotting under bumper. Distance between saddles adjustable from 24¾" to 41½" . . . with safety stops. Only minimum pumping effort required to raise load. Steady hydraulic power is always under complete control of operator. Hydraulic power unit is regular 3 ton Hein-Werner truck jack as made for over 20 years. Safety valves set at 1½ tons.

LIFTS ENTIRE END OF VEHICLE. The "55" lifts all cars and light trucks by the bumper, giving free access to both wheels simultaneously.

FREES WHEELS FROM DEEP FENDER SKIRTS.
Operator obtains unobstructed access to both wheels for faster tire changing, wheel balancing, washing, brake service, chain installation, lubrication of springs, etc.

THREE POSITIVE AUTOMATIC SAFETY LOCKS.

suggested dealer net

\$7985

See the amazing "55" at your H-W Jobber today.

Ask about purchasing on easy time payment plan.

Hein-Werner manufactures and sells more hydraulic jacks than any other company in the world today.



HEIN-WERNER CORPORATION

WAUKESHA, WISCONSIN

The complete Hein-Werner line includes: Under-Axle Jacks of 1½ to 100 tons capacity . . . "Bumper-Lift" Jacks for passenger cars . . . "Swift-Lift" and Service Jacks for shop use . . . Adjustable Car Stands . . . "Push and Pull" and "Pushmaster" Jacks for body, fender, and frame repair work.

1955

Smooth as Velvet ...



That's "VELVETONE" Performance

Douglass, the best name in steel-packed mufflers, after painstaking months of research and experiment — has produced the VelveTone, ultimate in fiberglas mufflers.

It's the smooth, quiet, efficient straight-through muffler that the whole industry will soon be talking about. Like all Douglass Steel-packed Mufflers, the "VelveTone" is built to last.

1955 is going to be a great year for those in the automotive industry. Make yours the most profitable ever by handling this "new sound" in exhaust equipment. It's guaranteed by the soundest name in mufflers!

Douglass MUFFLER MFG. CO.

1916 W. Valley Blvd.

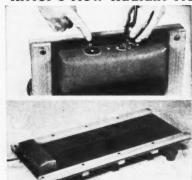
Alhambra, California

When the Motor is Down Build it Up with ...



Ritter's New Radiant Heater Creeper

Pat. Pending



Protects against Cold, Damp and Drafty Floors Brings Warmth while You Work

Just insert Plug. Adjust to desired temperature. Keeps entire body warm.

LTD. TIME ONLY \$29.95 FOB Our Plus 3% Mich. Sales Tax. Sorry! No COD's

Ritter's Creeper Co. 19329 Fenmore Detroit 35, Michigan Write for Desc. Folder Work Comfort means MORE and BETTER PRODUCTION



The amazing new Graymills discovery, form-ula 606 Carburetor Cleaner, has no

tor Cleaner, has no lingering odor, won't burn skin and REALLY cleans fast! Lasts up to 6 times longer. Saves Money. GET IT FROM YOUR JOBBER TODAY!

MONEY BACK GUARANTEE!

GRAYMILLS CORPORATION COM 3757 N. Lincoln Ave., Chicago 13, Illinois



PINION GEAR SPLINE ASSEMBLY

R - E - M - O - V - E - R

FOR CHEVROLET AND BUICK



Save Time Save Work Save Money Used simply with press or large vise

\$1945 PREPAID IN U.S.A. Charges Added If C.O.D. DEPT. A

BEAULOYE BROS. ENGR. CO., 1344 BROADWAY, SAN DIEGO 2, CALIF.

MOTOR AGE

The Quality Magazine of the Automotive After-Market

Independents.

· · Continued from Page 144

(30) days time shall elapse before a final count is taken. A two-third (2/3) majority vote shall be required to pass any measure, voted by mail.

Article VI—Officers

The Board of Directors hereinafter provided for shall elect the officers of this Association who shall consist of the following: president, vice-president, second vice-president, third vicepresident, secretary and treasurer. Provided further that the Board of Directors at their discretion may employ such personnel as they deem necessary for the development and progress of this association. Provided further that the duties and qualifications of all officers herein provided for shall be as set forth in the by-laws.

Article VII—Board of Directors

Each state association, also state unit member-at-large, (not individual members-at-large) shall designate or elect one member to the Board of Directors of the National Association. The number of votes that each member of the Board of Directors shall have, shall be as provided for in the by-laws. State associations having specialized units in excess of 100 members shall elect one extra director.

It is provided that the governing body of this Association, subject only to the provisions of the Constitution and the by-laws, shall be the Board of Directors, including the time and place thereof, shall be as provided in the by-laws.

Article VIII—Amendments

This Constitution shall be amended only at a regular meeting of the Association, or at a special meeting called for that purpose described in the by-laws, and no amendment will be accepted unless said amendment receives a two-third (2/3) majority of the votes, at such regular or special meeting.

Article IX-By-Laws

By-laws consistent with this Constitution and enacted for the purpose of putting into effect these articles shall be adopted by the Association at its first meeting or any subsequent meeting.

Article X

This Constitution shall become effective when it has been approved by two-thirds (2/3) of the eligible voting membership, as herein provided, or as provided in the by-laws at any general meeting or at a special meeting called for that purpose.

Provided further that if, in the discretion of the Board of Directors, it is deemed expedient to approve this Constitution by mail, it shall be so approved by a two-thirds (2/3) vote of the eligible voting membership as set

Customers Won't Buy Without Discounts

Price-cutting on new automobiles has become such a widespread custom in the past year or two that customers now will not buy without a fat discount, Time magazine has reported.

The price-cutting, Time concludes on the basis of a nation-wide survey of auto dealers, is evidence less of overproduction, than a significant change in salesmanship. "Dealers have found that they can make more money by discounting and boosting volume than by insisting on full price . . ."

General Motors has stepped in to keep the discount from demoralizing the industry, as it did in 1954 when marginal dealers unloaded surplus stocks at less than cost to used-car dealers, by preparing to repurchase new and unused passenger cars that might be considered excess supply.

Some dealers charge their troubles to bootlegging, or the race for first between Ford and Chevrolet.

Buy ONLY 100% SAFE Tubeless Tire Service Equipment

BISHMAN



Tested and Approved

100% SAFE, FAST BEAD EXPANDER

Double-action screw pulls BOTH ends of band to compress tire evenly, seat both beads for easy inflation. Absolutely SAFE—cannot snap open under pressure. Ruggedly constructed for long life—guaranteed against excessive wear or breakage. Be sure your bead expander is 100% safe, easy-to-operate, rugged and approved by major rubber companies.

The ONE Tire Changer that CANNOT DAMAGE AIR SEALS



Test Tubeless Tires as Easily as Inner Tubes



955

BISHMAN TUBELESS TIRE TESTER

Every tubeless fire you mount must be thoroughly tested for leaks in air seals, valves, wheel rivets and tire. Every "flat" should be inflated and tested to find ALL leaks before demounting for repair. Tubeless Tires are as easy to test as inner tubes when you use a Bishman Tubeless Tire Tester. The wheel is held on a fast chucking arbor and rotates freely under water to make the smallest leak in wheel or tire easy to spot. Available in floor model #856 and combination Tubeless Tire and Tube Tester.

The SAFE Bead Breaker recommended for use with other Tire Changers

Wide circle shoe rolls beads off—cannot touch air seals or damage side walls. The SAFE, easy way to break beads on soft sidewall nylon and rayon tires and on hump type safety rims. Ruggedly built, portable, simple to use, breaks toughest beads easily. Be 100% SAFE—use a Bishman #918 Giant Bead Breaker on tubeless and regular tires.

Bishman equipment has been developed especially for Tubeless Tires and tested and approved by major rubber companies.

"Buy the Best — Buy Bishman" Ask your Jobber or write TODAY!



MANUFACTURING COMPANY

Osseo 26, Minnesota

AC Spark Plug Div25, 79
Air Lift Co
Allied Motor Parts Co 148
American Chain & Cable Co 76
American Grease Stick Co 74
Ammco Tools, Inc 102
Aro Equipment Corp 26
Auto Specialties Mfg. Co 99
Bear Mfg. Co 87
Beauloye Bros. Engineering
Co
Better Farming 31
Bishman Mfg. Co 149
Blackhawk Mfg. Co15, 82, 106
Bonney Forge & Tool Works 90
Bowers Battery & Spark Plug
Co
Brand Names Foundation 132
Bridgeport Thermostat Div 120
Briggs Shock Absorber Co 104
Buick Motor Div 24
Carter Carburetor Corp 107
Champ-Items, Inc 86
Champion de Arment Tool Co. 126
Chrysler Corp. (Parts Div.) 27
Cities Service 137
Commercial Credit Corp 89
Cooper Mfg. Co 100
Delco-Remy Div 8-9
De Soto Div. Chrysler Corp 101
Ditzler Color Div 105
Dodge Div. Chrysler Corp 136
Douglass Muffler Mfg. Co 148
du Pont de Nemours Co., Inc. 127
Floatric Auto Lite Co. 20.00
Electric Auto Lite Co22-23
Farm Journal
Federal Mogul Service
Bower Roller Bearings 75
Engine Bearing Service 6
TW 11 250 0
Ford Motor Co 73
Fram Corp 117
General Electric Co 133
General Motors Corp 121
Globe Hoist Co124-125
Graymills Corp 148
5.45 mms Outp 148

Index to Advertisers

This Advertisers' Index is published as a convenience, and not as part of the advertising contract. Every care will be taken to Index correctly. No allowance will be made for errors or failure to insert



]
Hastings Mfg. Co2nd Cover]
Hein-Werner Corp 147	1
Heller Bros. Co	
Hollingshead Corp110-111-112	
Hudson Motors Div., Ameri-	-
can Motors Corp 130	1
Huot Mfg. Co	-
Ingersoll-Rand 98	1
Inland Mfg. Co 94	
Johnson Bronze Co 140	-
Ken Tool Mfg. Co 146	
Kent-Moore Organization, Inc. 96	
,	
Lasco Brake Products Corp 146	
Lee Co., K. O 151	
Leece-Neville Co	
Lion Oil Co 91	
McQuay-Norris Mfg. Co 83	
Manley Div. American Chain	
& Cable Co 76	
Mid-States Welder Mfg. Co 113	
Minnesota Mining & Mfg. Co. 14	
Moog Industries, Inc 4	
Moraine Products Div10-11-20-21	
Motorola134-135	

National Motor Bearing Co18-19
New Britain Machine Co 13
Oldsmobile Div 5
Oldsmobile Div
Packard Electric Div80-81
Perfect Circle Corp 71
Perfect Equipment Corp 108
Permatex Co., Inc 1
Petroleum Solvents Corp 144
Proto Tools 2
Purolator Products, Inc 141
rurolator Froducts, Inc 141
Quaker State Oil Refining Co. 103
Ramsey Corporation3rd Cover
Raybestos Div., Raybestos- Manhattan, Inc 16-17
Rinck-McIlwaine, Inc 151
Ritter's Creeper Co 148
Robertshaw-Fulton Controls 120
Rochester Products Div 143
Royal Metal Mfg. Co 142
•
Sealed Power Corp 32
Snap-on Tools Corp 109
Sommer & Maca Glass
Machinery Co 151
Southern Friction Material Co. 146
Speedi-Dri Corp 114
Studebaker-Packard Corp 69
Sunnen Products Co 122
Thermoid CoBack Cover
Thompson Products Co 97
*
Toledo Steel Products Co 115
Tru-Way Co 146
Turner Mfg. Co 151
True Magazine 131
United States Rubber Co 77
Wagner Electric Corp28-29
Walker Mfg. Co84-85-92-93
Wausau Motor Parts Co138-139
Wilkening Mfg. Co 95
Williams & Co. I. H.
Williams & Co., J. H 142
Wix Corporation 7
Wooster Rubber Co.
82-98-106-108-128-129

RIVET THE **NEW** WAY



. SIMPLE TO OPERATE

PRODUCES A ROLLED RIVET

For removing and setting rivets in Lower Vent Pivots and Vent Handle Brackets on all popular model cars. May also be used on some Division Bars. Replacement of Vent Handle Brackets may be done without removing Vent from car. Precision made of hardened tool steel. \$6.90

Complete assembly with Rivet Remover Screw (A) and Regular Rivet Setting Screw (B). (Large Rivet Setting Screw (C), for larger head rivets, \$2.25 additional).

SOMMER & MACA Glass Machinery Co.

Automotive Department

3624 SOUTH OAKLEY AVENUE

CHICAGO 9, ILLINOIS

HEXSET TAPS AND DIES!

For greater speed and convenience on new threadcutting or rethreading jobs, pick your tools from the mechanic's pride — a Rimac Hexset. Taps, dies, hex die stock and guides, and other accessories are all designed for quick, accurate results in confined quarters. Fitted in handsome, permanent, solid wood chests.

Also available—special rethreaders for axle shafts, armature shafts or inverted flared fittings—threadfile for restoring mashed threads of all sizes.

Ask your jobber or write for literature.





The PIONEER Tool

FOR INSTALLING VALVE SEAT RINGS



THE FIRST . . . and still the MOST POPULAR, MOST PRACTICAL, SIMPLEST, MOST UNI-VERSAL tool of its kind made.

EVERLASTING... the first tools made over 25 years ago are still in service.



K.O.LEE CO.

ABERDEEN, SOUTH DAKOTA

Sf it's made by Lee it's a "Knock-Out'"

1955



Hiram went fishing down by the creek, but forgot to take along his bait worms. Behind a log he spied a big water moccasin with a worm in its mouth.

Hiram took out his jug of wine and splashed some of the liquid into the snake's mouth. The water moccasin dropped the worm and headed for the Hiram took the worm and bushes. caught him a fine catfish.

Just as he was taking the fish off the hook, he felt something nudge him and brush up against his leg. He looked down and there was that water moccasin, sitting straight up with another worm in its mouth.

"How do you manage to get by

the day before pay-day?"
"I return the bottles for the nickel deposits."

Social reformer (to drunk): "The last time I met you, you made me happy because you were sober. Today I'm un-happy because you're drunk." Drunk: "Yeh, today itsh my turn to be happy."



"Ahh, I figured it's just as easy to mop it all up at the end of the day."



"He lives off the flat of the land! He manufactures falsies!'

If you make a left turn from a right hand lane, you are probably just careless and reckless and not what the driver behind called you!

"I've got a sick cat," said the farmer to the veterinarian. "He has no appetite, he just lays around licking his paws. What should I

"Give him a pint of castor oil," said the vet.

The puzzled farmer forced the cat to take a pint of castor oil. A few days later he met the vet in town.

The vet asked, "How's the sick calf?"
"Sick CALF? That was a sick

CAT I had.

"Did you give him the pint of castor oil?"

"Sure did."

"Well, what did he do?" asked

the vet.

"Last time I seen him," said the farmer, "he was going over the hill with five other cats. Two were digging, two were covering up, and one was scouting for new territory."

"I've been reading so much about the bad effects of smoking that I've finally decided to swear off." "Good for you."

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"Yah, no more reading for me."

Then there's the inebriate lying in street, one arm on the curb, crying, "I'll get over this wall if it takes me all night."

"You're an hour late getting back with those mules," the farmer yelled at his hired hand.

The hired man replied, "I picked up the preacher on the way home and from then on those mules couldn't understand a word I said."

Two girls were overheard talking about a man they were about to meet

"He's worth in the neighborhood of one million dollars," remarked one.
"Wonderful," said the second enthusiastically. "That's my favorite neighborhood."



"If he says 'the more the merrier' and accepts one more job today
I'll bop him."

NOW! First with the NEW More than 50% of all '55 engines will be factory equipped with oil rings utilizing the CIRCUMFER-ENTIAL EXPANSION PRINCIPLE. In C-9 you get this newest development with Ramco's yearsahead combination expander-spacer ring for re-ringing all engines originally equipped with circumferential expander rings. This newest evidence of Ramco engineering leadership brings you 9 important features* that insure... YEARS AHEAD RE-RING DESIGN FOR THE NEW TYPE ENGINES Still Years-Ahead with NO GAP PRINCIPLE Of all major ring designs, only Ramco Spiro-Seal has so long a record of doing the job right! Not in the fifteen years since introduction has its "No Gap" construction and its special action for correction of worn cylinder conditions been successfully imitated. Kamco engineered Superfine Chrome Plating* now makes them more efficient than ever! With 10-Up you can be sure of . . . YEARS AHEAD RE-POWERING FOR ALL ENGINES *Ask Your Ramco Jobber or Write Us. Keeps your business Years Ahead with for 90% of today's Re-Ring Jobs * RTC for all Fleet Re-Ring Jobs * 6 for the New Type Engine Re-Ring Jobs

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Thermoid's complete line of Hydraulic Brake Parts are precision engineered to the same industry-leading standards as Thermoid Brake Linings.



Thermoid Company • Trenton, New Jersey

the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.